The Mining Journal
RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 740.—Vol. XIX.] LONDON, SATURDAY, OCTOBER 27, 1849. [Price 6d.

STAFFORDSHIRE.—IMPORTANT SALE OF IRON-WORKS AND COLLIERIES.

MESSRS. OATES & PERRENS have been honoured with instructions from the Directors of the Galvanised Iron Company to OFFER FOR SALE, BY PUBLIC AUCTION (unless previously disposed of by private contract, of which due notice will be given), the well-known and valuable COAL and IRON-WORKS, known as the CORBYN'S HALL, DARLASTON GREEN, and TILED HOUSE IRON-WORKS and COLLIERIES, situate at KINGSWINFORD, near Dudley.

Also, the PHŒNIX IRON FOUNDRY and WORKS, situate in the same locality. /

Full particulars will be given in a future Advertisement.

GLAMORGANSHIRE, SOUTH WALES.

MR. H. M. PARTRIDGE will SELL, BY AUCTION, at the Angel Hotel, CARDIFF, on Wednesday, the 7th of November, 1849, at Two o'clock P.M. (unless previously disposed of by private contract, of which due notice will be given)—

Lot 1—Comprises all that well-known COLLIERY, called the DARREUDDU, situate nearly midway between Merthyr and Cardiff, with all the STOCK and PLANT appertaining thereto, including the inclined plane, which connects it with the Taff Vale Railway.

This lot is held principally under lease from Sir Charles Morgan, Bart., for a term, of which 18 years are unexpired, and 200 acres, or thereabouts, unworked. 2

Lot 2—Comprises all that recently-opened COLLIERY, known as the RHONDDA COLLIERY, situate on the side of the Rhondda branch of the Taff Vale Railway, and about 14 miles from the port of Cardiff, together with all the STOCK and PLANT, including a newly-erected HIGH-PRESSURE ENGINE, 20-inch cylinder, 6-feet stroke, and FIVE WORKMEN'S COTTAGES.

The whole of the minerals beneath this lot, consisting of the Hafod, Cymmar, and Coffin's celebrated seam of coal, are held under lease from Messrs. Edwards and Gething, 96 years of which are unexpired.

The Cymmar seam of coal is won by a pit of 25 fathoms depth, with an area of 300 acres nawrought.—Coffin's seam underlies the latter about 30 fathoms, with an area of 305 acres, or thereabouts.

For view of the works, inspection of the plans, or further particulars, apply to Messrs. D. and J. Thomas, mining engineers and surveyors, Pontypridd, near Cardiff.

VALUABLE COLLIERIES FOR SALE.

TO BE SOLD, BY PUBLIC AUCTION, at the Cardiff Arms Inn, in the town of CARDIFF, GLAMORGANSHIRE, on Tuesday, the 13th day of November, 1849, at Twelve o'clock at noon (if not previously sold by private contract, of which due notice will be given)— 3

Lot 1.—The RHONDDA COLLIERY, situate in the Rhondda Valley, near Newbridge, about 14 miles from Cardiff, with STEAM-ENGINE, PLANT, and WORKING STOCK.

This colliery is held under a lease of 99 years, of which 95 years are unexpired.

There are upwards of 300 acres unworked. There are three seams, or veins, of coal leased at a moderate galeage, or royalty, and the reserved rent is very low.

Above No. 3 vein, which is about 35 yards from the surface, is about 30 inches thick of rich CLAY IRONSTONE, which is easily worked, and for which there is a ready and profitable sale, even in the present depressed state of the iron trade.

No. 3 vein is the best known COAL for COKE for LOCOMOTIVE ENGINES. The best STEAM COAL VEINS are here, and may be leased at a low galeage; and, from its contiguity to Cardiff, could be rendered at a cheaper rate than any steam coal now worked.

Lot 2.—DARREUDDU COLLIERY, in the Taff Vale, about 12½ miles from Cardiff. This coal is held for 21 years, and — acres are now unworked.

A large tract of coal adjoins this colliery, and cannot be advantageously worked through any other opening. The quality of these coals are very superior.

For further particulars, or to treat for the purchase, apply to Mr. John Williams, Clifton-place, Newport, Mon.; or to Mr. David Thomas, Newbridge, Glamorganshire.

MR. GEO. TURTON, STROUD, will SELL, BY AUCTION, at the Castle Hotel, SWANSEA, on Thursday, the 15th day of November, 1849, at Three o'clock in the afternoon, the

CEFNEITHRIM COLLIERY, 4

situate near CLYDACH. The coal is excellent free-burning coal, and fit for steam purposes; it is worked by level, and a good tramroad runs from the colliery to the Swansea Canal, over which it has to pass less than 5 miles. The colliery is in excellent working condition, and the purchaser can have the PLANT belonging to the same at a valuation, if he desire.

The colliery is held under a lease for 21 years, renewable during the life of the lessor, at a low sleeping rent and royalty.

Also, the POTTERY WHARF, situate in SWANSEA, held under a lease for 99 years, if three lives (one of which only is surviving) should so long live, free from rent. The surviving life in the lease is insured in the sum of £300, the annual premium on which is £10 11s., and the policy will be included in this lot.

For further particulars apply to RICHARD JENKINS, Solicitor, Swansea.

COAL-FIELD IN STIRLINGSHIRE FOR SALE.

TO BE SOLD, BY PRIVATE BARGAIN, the CRAIGEND COAL-FIELD, as situated in the parish of MUIRAVONSIDE, near Falkirk and Linlithgow. The Coal-field extends to upwards of FOUR HUNDRED ACRES, of various seams, the first of which is only about 6 fathoms from the surface, and no pumping is required. Amongst other seams of fine quality, the field includes a very large extent of the celebrated COXROAD COAL, which is now so well known as a favourite coal in Edinburgh and elsewhere, and which always commands a ready sale in any district.

The Shieldhill branch of the Edinburgh and Glasgow Railway passes close to the mouth of the pits at present working, and from which there is not only a ready and direct communication with the district, but also (by railway and canal) with the cities of Edinburgh and Glasgow, Campsie, Scottish Central, and other railways. The Bo'ness short railway is now in rapid progress, and when completed will afford a most extensive and easy shipment of the coal at Bo'ness, where there is an excellent and safe harbour for large vessels.

The ENGINES and WHOLE MACHINERY, together with the COLLIERS' HOUSES, are in excellent order, and will either BE SOLD with the MINERALS, or handed over to the purchaser at a VALUATION; and, if desired, a part of the price may remain on security of the property. Altogether, a more safe and encouraging investment than the above is seldom to be met with.

All further particulars will be learned by applying to the proprietor, at Craigend House, by Linlithgow.—October 23, 1849.

FOR SALE,—TWO HUNDRED SHARES in the MONMOUTH AND GLAMORGAN BANK.—The amount per share paid up is £13, upon which dividend is paid, and a bonus of 2l. 10s. was paid upon each original share. The lowest dividend declared has been at the rate of 6 per cent. per annum, payable half-yearly. There is a large and increasing reserve fund, and no probability of a further call being made on the shareholders. This cannot fail to be a very profitable investment, as there is every probability of increased dividends.—Apply to Mr. John Williams, accountant and commission agent, Newport, Monmouthshire. 5

TREVISSICK CONSOLS MINE, in the parish of SAINT AUSTELL, CORNWALL. 1

This MINE is situated in the south portion of the parish of ST. AUSTELL, in the county of CORNWALL, and in the vicinity of several of the best COPPER MINES in that part of the county—viz.: Apple Tree, Old Crinnis, East Crinnis, Pembroke, Par Consols, &c., and is held under grant from the Duchy of Cornwall.

The SETT is very extensive, being from 500 to 600 fathoms on the course of the lodes, and the advantages of working are equalled by few, if any, mines in the county—the eastern boundary consisting of the high cliffs of St. Austell Bay, in which the lodes are visible, and which afford facilities for the prosecution of the deep adits, from the sea level, so as to give the mine an extensive development with the erection of steam machinery.

SEVEN LODES have been discovered within the limits of this SETT, running east and west, and parallel to the lodes of the rich mines above-mentioned, besides a cannter or oblique vein, which crosses all the others, and is of itself a lode of great promise.

A LEVEL is now being extended by proper force, for the purpose of intersecting the cannter lode; this being done, the other several lodes may be wrought on, thereby giving backs of nearly 50 fathoms from the surface.

The present proprietors are desirous of DISPOSING OF ONE-QUARTER, or ONE-HALF, of their INTEREST in this promising undertaking, and a respectable party will be dealt with on liberal terms.

Apply to Mr. R. Thomas, Mining Offices, 8, George-yard, Lombard-street, who will be ready to furnish every required information.

COAL MINES IN PEMBROKESHIRE.—TO BE LET, for a term of years, all the valuable VEINS of COAL lying under the FARM of CILRHEDYN, of about 350 acres, and comprising the best VEINS of ANTHRACITE COAL in the County. The above colliery has only been partially worked in the shallow veins many years back, before steam-power had come into general use, and is so situated that it can be opened at a small outlay, being on a branch of the Milford Haven Railway, with quays, coal yards, &c., already constructed, and a pit sunk within half a mile of the shipping place will command the whole of the property.—"A railroad, at a very easy inclined, can be made at a comparatively small expense." 8

For further particulars apply to Mr. James Wilson, mineral surveyor and agent, Underwood, near Haverfordwest.

NORTH WALES.—VALUABLE SLATE QUARRIES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, those VALUABLE QUARRIES, called the CAMBRIAN SLATE QUARRIES, situate in the neighbourhood of FESTINIOG, in the county of Merioneth. They have for some time been in full operation, and producing a material of first-rate quality, at a comparatively trifling cost, being in the side of a mountain, water free, and not having more than from 10 to 12 feet of "baring."—The above property is well worth the attention of capitalists, both from its position and capability of producing, at a slight additional outlay, an almost unlimited quantity of slates.—For particulars apply to

Mr. MICHAEL FORSTER, Mining Engineer, Conway, North Wales.

N.B.—These quarries are sufficiently opened out to develope both the quality of the slates and the capability of the extension of the works.

Conway, October 2, 1849. 9

Contract for Coals—General Post-Office, France.

NOTICE IS HEREBY GIVEN, that a CONTRACT for the SUPPLY of TWENTY-ONE MILLIONS THREE HUNDRED THOUSAND KILOGRAMMES of ROCK COALS, required by the POST-OFFICE, in FRANCE, is NOW OPEN.—Sealed tenders will be publicly received and adjudicated upon at the General Post-office, Paris, on the 29th of October inst., at One o'clock in the afternoon. The schedule of particulars can be seen at the French Consulate-General Office, 41, King William-street, City, from Twelve to Four o'clock. 10

PURSUANT to an ORDER of the HIGH COURT of CHANCERY, made in a cause, WARNER v. THE GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND and OTHERS, all PERSONS who were CREDITORS of the said Governor and Company of Copper Miners in England on the 19th day of April, 1848, and on the 3d day of November, 1848, being the dates of the Trust Deeds in the pleadings of the said cause mentioned, and who have not already signed the said Deeds, are, on or before the 1st day of December next, to come in before Richard Torin Kindersley, Esq., one of the Masters of the said Court, at his chambers, in Southampton-buildings, Chancery-lane, London, and SIGN the said DEEDS, and PROVE their DEBTS; and also the CREDITORS of the said company, who have already SIGNED the said DEEDS, are, on or before the said 1st day of December next, to come in before the said Master and PROVE their DEBTS; or, in default, they will peremptorily be excluded the benefit of the said Order.—October 20, 1849.

ARTHUR DIGBY, 1, Circus-place, Finsbury-circus, plaintiff's solicitor. 11

TILSON, SQUANCE, CLARKE, & MORICE, 29, Coleman-street, London, defendants' solicitors.

A SIMPLE INVENTION FOR CONSUMING SMOKE, and other valuable PATENT RIGHTS, TO BE DISPOSED OF. 12

Apply to F. W. Campin and Co., Patent Office, 210, Strand (corner of Essex-street).

TO ENGINEERS, IRONFOUNDERS, AND CAPITALISTS.—A GENTLEMAN, having secured a PATENT for an important INVENTION connected with IRONWORK and RAILWAYS, wishes to DISPOSE of the WHOLE, or PART, of his INTEREST in the same.—The invention can be seen in use to some extent, and full particulars obtained, by application (by letter) to "C. E.," care of Mr. Winder, 2, Ingram-court, Fenchurch-street, City. 13

FOR SALE,—A PORTABLE STEAM-ENGINE, of 25-horse power, particularly adapted for Driving Machinery in the most economical manner. It is on the principle of Woolf (two cylinders), 4-feet stroke, fly-wheel 15-feet diameter; fitted in the best possible manner in a strong handsome cast-iron frame, and what is termed a Bright Engine, and now just completed at the manufactory of Messrs. Harvey and Co., of Hayle Foundry, Cornwall, where it may be seen, or further particulars may be obtained on application.

They have also just completed, and FOR SALE, a PUMPING ENGINE, single acting, on the high-pressure expansive principle. The steam cylinder 30-inch diameter, 9-feet stroke, made after the most approved manner.

Hayle Foundry, Oct. 24, 1849.

TO BE DISPOSED OF, the MANUFACTURING PREMISES, BUSINESS, and CONNECTION (which is of a first-rate character), of a well established MACHINERY GREASE MAKER. 15

Also, some SHARES in LEAD MINES in NORTH WALES—the remainder being held by a most respectable proprietary.

Also, several PATENT RIGHTS, FREEHOLD ESTATES, LEASES of FOUNDRIES and ENGINEERING WORKS, FREESTONE QUARRY, and COAL and IRONSTONE MINES; SHARES in a well-known SLATE QUARRY, the PART, or the WHOLE, of a well-established GAS WORK, & STEAM-ENGINES and MACHINERY of all descriptions.

For particulars apply to James Boydell, land, mine, and machinery valuer, and agent, No. 54, Threadneedle-street, London.

JOSEPH DEELEY, of the LONDON and NEWPORT IRON-WORKS, NEWPORT, MONMOUTHSHIRE, respectfully recommends to the notice of the public his PATENT FOUNDRY FURNACE, which has been effectually tested, and is now in constant use at the above works, where it may be inspected by all persons interested. This furnace operates without the aid of any motive-power to impel the air. An immense saving is the consequence, both in erecting and working. One-third of the coke usually required is more than sufficient; a loss of only 22 lbs. to the ton being sustained in smelting.

The IRON MELTED in this furnace also undergoes an extraordinary improvement in quality. 16

SCOTCH PIG and SCRAP are returned equal to the best cold-blast in point of strength, and capable of being chipped or filed with the greatest facility.

FOUNDRIES USING the FURNACE may exist in the most densely populated cities, without causing the least nuisance—all smoke, dust, and noise being entirely avoided.

The FOREIGN PATENT RIGHTS of the above are FOR DISPOSAL, affording capitalists the most favourable opportunity for profitable investment.

APPLY TO THE PATENTEE AS ABOVE.

DUISBURG IRON-WORKS AND MINES, *IN WESTPHALIA, CLOSE TO THE RHINE.* 17

Managed in England according to the principles of the "Cost-book System," and in Prussia as a *Société en Commandité*, under laws limiting the liability of the shareholders to their personal subscription.

Company's Offices, 26, Moorgate-street, City.

CAMBRIAN IRON FOUNDRY, ENGINE AND BOILER MANUFACTORY, 18

NEWPORT, MONMOUTHSHIRE.

ESTIMATES GIVEN for GAS and WATER-WORKS, RAILWAY, BRIDGE, and OTHER CONTRACTS, to any extent. THOMAS EDWARDS, Proprietor.

October 1, 1849.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS,

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:— 19

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND FUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

TOUGHENED CAST-IRON—STIRLING'S PATENT. 20

No. 1—For SMALL and MEDIUM CASTINGS.
No. 3—For HEAVY CASTINGS.
No. 3 *(Extra)*—For ROLLS, HEAVY SHAFTS, and VERY HEAVY CASTINGS.

The above is by far the strongest Cast-Iron made, and is now being extensively used where strong castings are required.

Further particulars may be obtained on application to

Messrs. GARDEN & MACANDREW,
27, Queen-street, Cheapside, from whom also the IRON can be PROCURED.

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at considerably reduced prices. 21

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall.

TESTIMONIALS.

We, the undersigned, hereby bear our testimony to the excellence of the Safety Fuse, manufactured by Messrs. Brunton and Co. We have had it in use in our mines; and, after sufficient trial, find it to be fully equal to any Fuse we have ever used:—

Carn Brea Mine.	*Cook's Kitchen Agents.*
R. H. Pike Purser.	John Ivey.
John Leuton, } Agents.	William Hitchens.
James Miners, } Agents.	*North Roskear Agents.*
John Vivian, } Agents.	Joseph Vivian.
John James, } Agents.	William Michell.
North Pool Agents.	William Thomas.
James Evans.	*Tincroft Agents.*
John Nancarrow.	Peter Floyd.
Frederic Evans.	Thomas Stainsby.
South Roskear Agents.	Thomas Lean.
John Dunkin.	Henry Hocken.
William Thomas.	Richard Martin.
Cook's Kitchen Agents.	William Nancarrow.
Joseph Vivian.	Alex. Eudey, } Wheal Agar Agents.
Richard Bennetts.	Joseph Eudey, } Wheal Agar Agents.

WANTED, by a GENTLEMAN, most of whose life has been devoted to the superintendence of extensive Gas and Charcoal Works, a SITUATION as MANAGER of GAS-WORKS, or other MANUFACTURING CONCERN, in which chemical knowledge would be available. The Advertiser being well acquainted with the modes of working adopted in many of the best conducted gas-works of England, is satisfied that there are few establishments in which he could not make a material reduction in the cost of gas. Unexceptionable references as to character and ability, and security if required.—Address "S. M.," Post-office, Ivy-bridge, Devon. 22

TO MINE ADVENTURERS.—The Undersigned is ready to enter into CONTRACTS for SUPPLY of COAL, TIMBER, and the various MATERIALS USED in WORKING MINES in CORNWALL and DEVON, on the lowest terms, and according to such arrangements as may be agreed upon.—Letters addressed as under will be attended to, and prices given. THOMAS TREGASKIS, Basset Wharf, Perran, near Truro. 23

SULPHUR.—ONE THOUSAND FIVE HUNDRED TONS of SULPHUR SMALLS FOR SALE, at a reasonable price and immediate delivery.—Apply by letter to Mr. Alfred Foster, North American Coffee-house, No. 68, Threadneedle-street, London. 24

STEAM-ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, an 85-inch cylinder STEAM-ENGINE, 10-feet stroke, equal beam.—Application to be made to Messrs. Hocking and Loam, engineers, Redruth. 25

SOUTH CARADON MINE.—A Gentleman, who holds a FEW SHARES in this celebrated MINE, about to relinquish mining pursuits, wishes to DISPOSE OF THEM at a reasonable price.—Address, or apply, to "G.," 10, Clements Inn, Strand. 26

WANTED TO PURCHASE—SHARES in South Frances, North Roskear, Trelawny, Trehane, South Basset, Devon Great Consols, Treskiley, Tincroft, Bedford, Stray Park and Camborne Vean, East Buller, and Cook's Kitchen Mines.—Apply to Messrs. WATSON & CUEL, Mining Offices, 1, St. Michael-alley, Cornhill, London.

N.B.—Messrs. W. & C. are always in a position to treat for the Sale or Purchase of Shares in all the best dividend Mines in Cornwall, Devon, and Wales. 27

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 23, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz. Condurrow, West Providence, Wellington, Treviskey, Tremaine, Wheal Alfred, East Rose, North Roskear, Trelawny, Stray Park, West Caradon, Treleigh, Tincroft, Bedford, South Tamar, South Wheal Frances, Altarnun, St. John del Rey, and United Mexican Mines. 28

MR. C. S. RICHARDSON wishes to meet with a FEW GENTLEMEN to JOIN him to EXTEND the WORKINGS of a RICH TIN MINE, now paying a profit of above 25 per cent.—Specimens of the finest quality are to be seen at the office, 16, Old Broad-street, with Plans, Reports, Leases, &c.—£250 per part, or share, is all that will be required—Mr. R. will provide the additional capital. 29

MR. H. B. RYE, MINING SHARE AGENT, No. 77, OLD BROAD-STREET, is in a position to BUY or SELL SHARES in all the leading MINES in Cornwall, Devon, and Wales, and will be pleased to give every local and other information, on application at his offices as above. 30

MR. T. A. READWIN, MINING OFFICES, *2, WINCHESTER-BUILDINGS, OLD BROAD-STREET, LONDON.* 31

MR. HENRY VATCHER, MINING AND RAILWAY SHAREBROKER, EXETER.

Competent and experienced AGENTS provided to INSPECT MINES, at the shortest notice. 32

MR. R. TRIPP, MINING AGENT and SHAREBROKER, *BEDFORD CHAMBERS, BAMPFYLDE-STREET, EXETER.* 33

MR. GEORGE BATE, Jun., CIVIL ENGINEER AND SURVEYOR, *WOLVERHAMPTON.*

Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed. 34

JAMES LANE, MINING SHARE DEALER, *80, OLD BROAD-STREET, LONDON.* 35

ASTURIAN MINING COMPANY.—The Board of Directors and Committee of Liquidation hereby give Notice, that they have made a further CALL of TWO POUNDS, or 200 reals vellon, per share upon the shares held in the capital stock of the company, and that such call is PAYABLE, for holders of Spanish shares, at the bank of Messrs. H. O'Shea and Co., Madrid; and for all other shares, at the London and County Bank, Lombard-street, London, on the 10th day of November next. That shareholders who shall pay one-half of the said call on or before the said 10th day of November, will be allowed one month for the payment of the other half of the said call: 5 per cent. discount will be allowed on pre-payment.

K. MACKENZIE, Secretary. 36

Offices of the Company, 9, Austinfriars, London, Sept. 28, 1849.

ASTURIAN MINING COMPANY—IN LIQUIDATION.—Notice is hereby given, that the REAL ESTATE, the CONCESSIONS OF MINES, and the WORKS of this COMPANY, at Mieres del Camino, Santo Firme, and La Eugenia, situate in the Province of OVIEDO and Principality of the ASTURIAS, in SPAIN, have been ordered by the Board of Directors and Liquidators TO BE SOLD, UNDER TENDER, such Tenders also to include the PURCHASE, by VALUATION, in the usual manner, of the STOCK in hand, of all kinds, IMPLEMENTS and ARTICLES used in the various departments of manufacture at the said works. The Tenders to be subject to the approval of a General Meeting of the company, to which is reserved the right of accepting the offer which may appear most beneficial to the shareholders of the said company. 37

A description of the property, and the conditions of sale, will be ready for inspection at Madrid, with Messrs. Hy. O'Shea and Co., bankers; at Mieres del Camino, with the company's superintendent; at Gijon, with J. Kelly, Esq., British Vice-Consul; and at the company's office in London, on and after the 10th day of November next. All tenders must be sent into the principal office of the company, 9, Austinfriars, London, on or before the 15th day of December next, addressed to "The Directors and Liquidators of the Asturian Mining Company," to whom also should be addressed all enquiries respecting the sale.

The works may be viewed on application to Mr. George Lambley, the superintendent at Mieres del Camino, in the Asturias. K. MACKENZIE, Secretary.

GENERAL MINING COMPANY FOR IRELAND.—Notice is hereby given, that a HALF-YEARLY GENERAL MEETING of the proprietors will be HELD at the office of the company, No. 2, Burgh-quay, Dublin, on Monday, the 3d day of December next, at the hour of Eleven o'clock in the forenoon, to receive the half-yearly accounts, up to the 1st of October last, and the auditors' report thereon, and to transact the general business of the company; and which will be made SPECIAL for the following purposes—viz.: To reduce the number of directors from nine to four; to elect four directors of the company for the ensuing year; and, in case such reduction be not agreed on, to elect nine directors of the company for the ensuing year—the ballot for which will commence at Eleven o'clock in the forenoon, and close at Three o'clock in the afternoon of the above day. THOMAS MAGUIRE, Secretary. 38

October 24, 1849.

IMPERIAL BRAZILIAN MINING ASSOCIATION, Winchester House, Broad-street, London, October 22, 1849.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of the proprietors of shares in this association will be HELD at the London Tavern, Bishopsgate-street, on Tuesday, the 13th of November next.—The chair will be taken at Two o'clock precisely.

GEORGE THOMAS, Acting Director. 39

N.B.—The auditors' statement may be seen at the office three days before the above meeting.

MEXICAN AND SOUTH AMERICAN COMPANY, 10, New Broad-street Mews, Sept. 10, 1849.—Notice is hereby given, that the directors of this company have made a CALL of ONE POUND per share on the shares in this company, and that the same is to be PAID on the 17th of October next, to Messrs. Barclay, Bevan, and Co., for account of the directors.

By order of the directors, GEORGE COPPARD. 40

N.B.—The bankers' receipt is to be brought to this office, with certificates of the shares, which must be left one clear day to have the payment endorsed.

[*Extract from the Certificates of Shares.*]

"If any call be not paid within 15 days of the same becoming due, the directors shall, at the first convenient opportunity, sell the shares so in default, and hold the proceeds thereof, after deducting the amount of the call and interest thereon, at 5 per cent. per annum, at the disposal of the proprietors thereof."

TINCROFT MINING COMPANY—TWELFTH DIVIDEND.—Notice is hereby given, that a DIVIDEND of SEVEN SHILLINGS per share, being 5 per cent. upon the paid-up capital of this company, will be PAID on Wednesday, the 31st inst., and succeeding Wednesdays, between the hours of Twelve and Three.—The certificates are required to be left at the office two clear days, in order to be examined and marked.—Salvador House, October 4, 1849. 41

RAILWAY TRAFFIC.

The reports regarding the falling off in the traffic of some of the principal railways during the prevalence of cholera, have caused much anxiety to railway shareholders, and may have tended to depress the value of their property. They will probably be glad to know that the aggregate traffic on the railways in the United Kingdom, during the current year, shows a considerable increase over the corresponding period of 1848. The published total receipts, from the 1st of January to the 30th of September, 1849, amounted to 8,366,540*l.*; corresponding period of 1848, 7,500,680*l.*—showing an increase of 865,860*l.* The receipts, during the first quarter of 1849, amounted to 2,330,236*l.*; second quarter to 2,824,900*l.*; and third quarter, 3,211,401*l.*—being an increase over the corresponding periods of 1848 of 302,970*l.* in the first quarter, 298,560*l.* in the second, and 264,330*l.* in the third quarter.

A comparison of the traffic returns for corresponding periods of former years, shows the increase to be progressive. The receipts, during the first 39 weeks of 1843, amounted to 3,680,480*l.*; in 1844, to 4,215,440*l.*; in 1845, to 4,960,320*l.*; in 1846, to 5,758,600*l.*; in 1847, to 6,685,880*l.*; in 1848, to 7,500,680*l.*; and, in 1849, to 8,366,540*l.*

The length of railway in operation over which the traffic was carried at the end of those periods was—in 1843, 1586 miles; in 1844, 1770 miles; in 1845, 2033 miles; in 1846, 2498 miles; in 1847, 3375 miles; in 1848, 4178 miles; and, in 1849, 4980 miles.

The average traffic receipts per mile indicate the effects of opening so many miles of new railway. During the first 39 weeks of 1843, the traffic receipts averaged 2330*l.* per mile; in 1844, 2500*l.*; in 1845, 2640*l.*; in 1846, 2560*l.*; in 1847, 2200*l.*; in 1848, 1965*l.*; and, in 1849, 1780*l.* per mile. As may be expected, the opening of the trunk lines in the first three or four years, had the effect of considerably increasing the traffic per mile; while the construction of duplicate lines, and comparatively unproductive branch railways in the latter years, has had the contrary effect, by reducing the average traffic per mile very considerably, which is likely to continue so long as the present system of constructing unproductive extensions and useless branches is pursued.

The traffic returns of 52 railway companies in the United Kingdom for the half-year ending the 30th of June, 1849, amounted to 5,395,240*l.*; and the total working expenses, including rates and taxes, amounted to 2,508,210*l.*—leaving a net profit of 2,887,030*l.* to pay interest on loans and dividends on capital. On these, including leased lines, 181,000,000*l.* have been expended up to the 1st of July, 1849. Estimating the "unproductive capital" at 11,000,000*l.* expended on lines in course of construction, the remaining 170,000,000*l.* must depend for dividend on the net profit of 2,887,030*l.*, which would give a dividend of nearly 34s. per cent. for the half-year, or about 3¾ per cent. per annum.

It is estimated that nearly 40,000,000*l.* of the above sum is borrowed capital, and that interest is paid thereon at rates varying between 4 and 5 per cent. Taking the interest at 4½ per cent., it would require 900,000*l.* to pay the half-year's interest; and deducting that sum from the net profit mentioned, would leave a balance of 1,987,030*l.* to pay a dividend on what may be called the share capital, amounting to 130,000,000*l.* That sum, provided there were no guaranteed rents, or preference dividends, would admit of a dividend of rather more than 3 per cent. per annum. This general result is, no doubt, much more satisfactory than many shareholders have anticipated; at the same time, it warns them against paying very high rates of interest in perpetuity on preference shares, and giving their sanction to extravagant guarantees.

A series of experiments has been commenced at Woolwich Dockyard, by Mr. Coad, with a boiler having three furnaces, to test his plan of building a brick arch round the sides and roofs of the furnaces. The bricks are mostly placed endways next the fire, with a space of nearly three inches betwixt each other in the tiers, to a create a greater draught, and admit the heat to the boilers. The fires burned remarkably bright, and if bricks can be obtained that will resist the intense heat to which they are to be subjected, the plan will answer very well. We shall give further particulars of the evaporating power, and the quantity of coals and time occupied, when the experiments are completed.

Electric Telegraphs no Novelty.—Mr. Weld, the secretary of the Royal Society, writes as follows to the *Athenæum*:—You are aware that, with regard to the application of the electric telegraph, there have been disputes as to priority of invention on the part of the discoverers. Under these circumstances, I conceive that the following interesting statement, taken from Arthur Young's *Travels in France*, published in 1792, will be read by those to whom it is new with some surprise. The author records that he spent the evening of the 16th of September, 1787, in the company of a M. Lomond, whom he describes as being a very ingenious and inventive mechanic, who had made improvements in machinery for spinning cotton. He then proceeds:—"In electricity, he has made a remarkable discovery. You write two or three words on a paper; he takes it with him into a room, and turns a machine inclosed in a cylindrical case, at the top of which is an electrometer—a small fine pith ball. A wire connects with a similar cylinder and electrometer in a distant apartment; and his wife, by remarking the corresponding motions of the ball, writes down the words they indicate, from which it appears he has formed an alphabet of motions. As the length of the wire makes no difference in the effect, a correspondence might be carried on at any distance, within and without a besieged town, for instance; or for a purpose much more worthy, and a thousand times more harmless, between two lovers prohibited or prevented from any better connection. Whatever the use may be, the invention is beautiful." Young adds—"That M. Lomond has made many other curious machines, all the entire work of his own hands. Mechanical invention seems to be in him a natural propensity."—*Somerset House, Oct.* 17.

Telegraphic Manipulator.—Mr. W. S. Thomas, of Norwich, New York, has invented a telegraphic manipulator, which he saw tested on Saturday afternoon at Bain's Office, in the Odeon building, in the presence of a number of gentlemen; and its results were in the highest degree satisfactory. The operators at the office were greatly pleased at its success, affording, as it does, a means of transcribing "lightning" writing as fast as the apparatus can turn out the paper. This is a highly important improvement in telegraphing, and may have an important bearing in the legal quarrels of Profs. Morse and O'Reilly.—*Washington Republic, Oct.* 1.

Lighthouses.—Mr. Thomas Stevenson, C.E., has introduced to the Royal Scottish Society of Arts some improvements in fixed and revolving lights, being a "new diacatoptric instrument for increasing the intensity of the light." The author states that his instrument is composed of three parts—a paraboloidal mirror, having the conoidal portion behind the parameter cut off, and its place supplied by a hemispherical reflector, whose centre thus coincides with the focus of the parabolid, while in front of the flame is placed an annular lens subtending at the focus of the paraboloid, the same angle as that which is subtended at that point by the greatest double ordinate of the reflector, and having its principal focus coincident with that of the paraboloid. This instrument should theoretically produce the most intense light yet derived from any given flame, as it incloses and parallelized each ray of the whole sphere of light, so that none are lost by divergence between the lips of the reflector, where, in the present arrangement, not very much short of one-half of the light is lost. In this instrument the hemispherical reflector throws the light which it receives (viz., the posterior half of the sphere of the light) through the focus of the paraboloid, and while the outer ring of this light is received by the paraboloid, and parallelized by it, the central cone is received by the annular lens, and is also parallelized. The outer ring of the anterior half of the sphere of light is received directly by the paraboloid, and is parallelized by it; while the central cone of rays, which, in the present arrangement, is lost by natural divergence, is received by the annular lens, and is parallelized by it. Thus the whole sphere of light is economised. The combination may also be applied *mutatis mutandis* to the illumination of half of the horizon of a fixed light, by means of a single light; the only difference being the substitution of two truncated parabolic conoids for the paraboloid, and a refracting belt for the lens. Two of these instruments directed to opposite points of the compass would light up the whole horizon—Another new form of lighthouse apparatus was also described, by which the whole sphere of rays can be parallelized by means of a hemispherical reflector placed behind the light, and an annular lens, and a series of concentric totally reflecting glass zones also placed in front, and receding from the lens back to the reflector. These zones are also new in themselves, as they have the property of parallelizing divergent rays, not only in a vertical plane like the zones in Fresnil's fixed lights, but also in every plane whatever. The invention was referred to a committee.

LIFE ASSURANCE ON RAILWAYS.

Our readers need not be reminded of all we said, when we stood in the character of public sponsors for the Railway Passengers' Assurance Company. It is enough, indeed, to mention the fact, with the observation that all our predictions, with reference to the operations of that company, are in rapid course of fulfilment. Nor could the contrary be expected to occur, when the constitution of the board of directors is considered; composed as it is of bankers, members of the House of Commons, professional men, and commercialists, not merely of high-standing or known wealth, but having the qualifications and habits of men of business. If we erred at all in the opinion we entertained of the undertaking, it was on the safe side; for the successful efforts of the directors, and the gentlemen officially associated with them, have outrun our expectations. Simple as is the system of assurance to the public, whether through the medium of single-journey, or periodical tickets, it must have cost much labour, and the exercise of considerable suggestive skill, to set up and put in motion the necessary machinery, to say nothing of the preliminary negociations with railway directors and their secretarial adjuncts. There remain, now, it appears, by the public announcement of the company, but a few, out of all the railways that occupy the length and breadth of Great Britain, at the principal stations of which the tickets of the Railway Passengers' Assurance Company are not obtainable, with the same ease as the railway-fare ticket, and at the same moment. That there should be any exceptions is as much a subject of regret to us, as it must be of inconvenience to the public. Why those who travel on railways in the north, east, and west, should enjoy the advantages of this system, and others be deprived of them because their locomotion is chiefly confined to the south, passes our powers of divination. Elsewhere, the facility is the rule, and its absence the exception; but in the south, the case is proportionately reversed. It would seem that there are doubters and procrastinators among the managers of railways, to whom the public look for quickness of determination and promptitude of action, as well as among what may be deemed to be less intelligent classes. But we should have thought, as soon as a system so convenient and necessary had become the vastly preponderating rule, that even these hinderers of its universal application would be ashamed longer to hesitate or delay.

We would respectfully hint to these gentlemen, that their supineness may tend to the deterioration of the property confided to their charge; people may begin to entertain the notion, no valid objection being discernible, that it is not the railway directors themselves, or their officials, who are disinclined to the adoption of the system, but that the directors of the Assurance Company are not quite satisfied to insure passengers, at the same rates, on these particular lines; that there is something less reliable in the means applied for the prevention of accidents upon them, or in the mode of management, or in some of the subordinate details. Any idea of this kind is more likely to occur than the possibility of the want of that appreciative examination of what has been so generally approved, or of the energy and readiness which are considered to be the attributes of railway directors. And should such an adverse notion obtain—an evil which we would fain avert—it would certainly deter many timid persons from patronising that small section of anti-assurance railways.

Let us hope, therefore, that when we next notice the subject it will be to congratulate all parties upon the thorough adoption of this principle of life assurance, which includes in its important application the provision of medical treatment, the defraying of other contingent expenses, and further compensation in cases of personal injury that happily do not terminate fatally, within a reasonable period (three months, we believe) from the occurrence of the accident.

SCOTTISH AMICABLE ASSURANCE SOCIETY.

Among the life assurance societies now in existence, we are pleased to find, from our advertising columns of to-day, that a London branch of this society has been established. Founded in Glasgow in 1826, this society has long held a deservedly high station among our northern brethren, the principle on which it is conducted being decidedly mutual, a division of the profits being made periodically among all the assured, instead of being divided among subscribers to a paid-up capital. In their prospectus it is observed—The very enunciation of the principle of life assurance suggests the idea of mutual association to secure its benefits. And although in the commencement of the system, and comparative ignorance of the subject, the guarantee of a proprietary might be viewed with favour, the immense profits made by proprietary companies now form an additional practical argument for the mutual system, by which these profits are preserved for the assured. "It has been found," says a popular writer on the subject, "that by the plan of mutual assurance all desirable security is afforded, while the profits are divisible among the only parties who have any right to them—the assurers. Mutual assurance societies are, therefore, rapidly supplanting assurance companies, most of which will, probably, in a few years cease to exist." The Scottish Amicable Life Assurance Society was accordingly established on the mutual system, with no view to personal advantage among its promoters, farther than to obtain for themselves and their fellow-members, the full benefits which may be derived from their contributions. In regard to the mode of division of the profits, that adopted by the society has been found to be fair, simple, and popular, the additions being in proportion to the duration and amount of the policies, calculated from the date of the policy or previous investigation, and exigible on all policies which emerge after being five years in existence. Additions are also allowed on additions declared at previous investigations. The investigations are made every seven years, but all the advantage of annual additions has been attained by provision having been made at each investigation for further annual prospective additions to such policies as may emerge before the next investigation. That in all cases they will return their members more than their contributions, with accumulated interest, and at a high rate, the directors will not, like the advertisements of some offices, pretend to insinuate. "Public ignorance is the principle to which these advertisements appeal," and the pretensions of that office are to be mistrusted, that seeks to mislead the public to suppose that all must gain. There is another point which the directors think right to notice,—that in terms of the constitution, the directors, ordinary and extraordinary, must be members of the society, by holding policies of assurance for life with it of more than three years' standing. It is proper to state this, as it is notorious that in many assurance companies, names of parties appear as extraordinary, and sometimes ordinary, directors, who have no other connection with them, or at any rate are not assured in the offices, and do not by their appointment show to intending assurers that they have adopted the principles their names are brought forward to advocate, as is secured by the rule of this society, under which the noblemen and gentlemen, who are directors of it, have been appointed.

Commercial Bank of London.—A special meeting of this company was held at the offices, in Lothbury, on Wednesday, when Mr. Hunter was added to the direction.

Namur and Liege Railway.—The remaining part of the Mons and Manage section of this undertaking is to be opened for traffic to-morrow. The railway was completed several months ago up to its junction with the Belgian state lines at Mons and Manage; but in consequence of the works for the enlargement of the Government station at Mons, to accommodate the additional traffic expected from the new line, not being completed, the Government would not permit the company to bring the traffic on the line further than Nimy, which is situated about three-quarters of a mile from Mons. The total length of the railway, including the branch, is 22 miles. There is at present a good traffic on the line, which it is expected will be considerably increased by the opening to Mons. The line passes through a rich mineral district, and will not only form a complete junction with the state lines at both ends, but will, after the opening, be in direct railway communication with the Great Northern of France Railway.

Scottish Central.—We have heard that a new offer is to be made to this company on the part of the Caledonian, Lancaster, and Carlisle, and North Western Railways, to the effect that the latter would pay 50 per cent. on the mileage of all goods brought to their respective lines from the Scottish Central. There was to be no farther offer of leasing or new working agreement. As the working expenses of most lines are estimated to be 40 per cent. of the traffic, the above offer is considered a very liberal one, but still its effect will fall far short of the 7 per cent. guarantee.—*Perth Courier.*

Remarkable Cure in Hobart Town, by Holloway's Ointment and Pills.—Major Walch, of Wellington-bridge, Hobart Town, writes that Holloway's Pills and Ointment enjoy high repute in Van Diemen's Land. He speaks of one man who had been for years under the treatment of the medical practitioners, and was discharged from the hospital as incurable, and had become so miserably emaciated and weak that he could only move about with the assistance of persons supporting him. In this condition he commenced using these medicines, which have so completely renovated his health, that he has now become a stout healthy-looking man, and his cure he solely attributes to the use of Holloway's Pills and Ointment. Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London. ℔2

THE COPPER MINES IN CUBA.

Cobre, Oct. 22.—In addressing you on the subject of mines and mining, as conducted in this part of the world—which will, doubtless, prove generally interesting, and more particularly to those engaged in that business—the chief object I have in view, is simply to present facts, and show the difference between the American and English mining companies. I arrived in the city of Santiago de Cuba on the 18th April, after a pleasant passage of 13 days from New York; and having spent a few days in the city, took passage in a small steamer, the *Bota Fuego*, and proceeded to Port du Salle, a distance of four miles. This is the great depôt for copper ore prior to its shipment to Swansea, or other ports, and is also the terminus of a railroad from the village of Cobre, nine miles in length, on which the ores are transported, at the moderate sum of $6 per ton. The original cost of this road was $500,000, which is now paying 30 per cent.; the shares are 5000, of from $130 to $150 each. I was placed in a car capable of holding 12 persons, close stowage, to which was attached eight mules, and on each alternate mule was one of our coloured brethren, "*à la* Tappan," with a small pair of spurs, and a long whip; and from his frequent applications of the latter to the mules, any one would naturally have supposed that the African was in his element. Now, if this was "sport to him, it was nearly death to me;" for, what with the cracking of whips, and the clouds of dust (occasioned by mule power), that are continually depositing themselves in your eyes, combined with the tobacco smoke of the passengers, my situation was far from enviable, and will enable you to form some faint idea of the pleasure a foreigner experiences when travelling on a Cuba railroad, and, more particularly so, if he is in any way asthmatic. After an hour and a half of mental suffering, we arrived in the ancient village of Cobre, in and adjoining which are the mines of copper, the greater part of which are owned by English companies, commenced some 15 years ago by Mr. Hardy, then English Consul, who established the great company known as the "Consolidated Cobre Mining Company," and here, by the lower classes, as "Mina Grande." This establishment has two agents (Mr. James Reynolds and Don Pedro Ferrery Lander, to whose judicious management the company are indebted for the vast returns.

The next English Company, the "Royal Santiago," has been heretofore a profitable undertaking. At present, however, they are shipping but little ore, from the fact of their best lode underlying into the "appurtenencias" of the Cobre Company's mine. This establishment is under the direction of Captain William Hoskins, a good practical miner.

The "San Jose," a Spanish mine, has been one of the richest mines in point of ore, but from the many discrepancies that have existed between the shareholders, all the profits have been transferred into the pockets of lawyers. At present, however, they are getting on a little better, as the works are under the direction of Don Juan Castro.

The next mine, and one that bids fair to excel all others, is owned by an American company in your city—"The American Exploring, Mining, and Manufacturing Company," who are now working the "Lucretia y Ceciliana." This mine was commenced six months ago by the company, under the direction of Mr. Edward B. Wilder, to whom I am indebted for the information herein given. Mr. Wilder informs me that he has sent the company 130 tons of ore in that period, some of which yielded in Baltimore 34 per cent., and sold for $106 per ton. I could hardly believe it possible that a mine could be opened, with a limited number of hands, and such a quantity of ore sent off in so short a space of time, as it generally requires from 6 to 12 months to open a mine, and that, too, without raising any ore; for the Cobre Company's mine was at work over one year, and expended $260,000, without shipping 100 tons of ore, and that, too, with 500 or 600 hands employed; whereas the Lucretia y Ceciliana have had but 40 employed, and sometimes less. This not only speaks well of the present management, but clearly demonstrates that the mine has an abundance of rich ore, and only requires a little time to render it a source of immense profit to all engaged therein. Having been underground and seen the works, I was astonished at the amount of work done. The adit level having been driven in 360 ft.—one shaft at the depth of 164 ft.; another at 59 ft.; three different winzes, 60 ft. deep each; and large stopes, from which copper has been taken, from 10 to 60 ft. At the depth of 100 feet the lode of copper is 8 ft. wide, and apparently increasing in width as it descends. At 59 ft., in the second shaft, they have a lode of rich grey copper, 2 ft. wide, that yields, on assay, 43 per cent. I would close my remarks by saying that, in addition to the 130 tons already shipped, Mr. Wilder has 40 more dressed, ready for the first vessel; and 150 more, out of the mine, ready for dressing. I have dwelt thus far, to some extent, on this mine, simply from the fact that my countrymen own it; and, moreover, that I have been all through the mine, and consider it, without exception, one of the finest, thus far developed, that I have ever seen.—Correspondent of the *New York Herald.*

Boiling Springs of the Geysir, in Iceland.—In a plain, about eight miles in breadth, extending from the foot of the Blafell to the sea shore, and connecting itself with the flat moorland of the coast, lies the springs of the Great Geysir, at the foot of a hill, composed of slaty phonolite and grey trachyte. According to all appearance, this plain, which has scarcely a perceptible inclination to the sea, was once a broad fiord, reaching as far as the jagged mountains of the Yarlhettur and the Blafellshals. It is clothed with a thick green carpet of meadow ground, and many larger or smaller springs wind like silver ribbands through the grass, sometimes hiding between high banks, then again coming in sight. To the east and south-east are seen ranges of flat hills and mountains, among which can be distinguished the cone of Hecla; on the opposite side, behind the Laugafell, the Byarnafell, higher and steeper, and mostly veiled in dark blue clouds, clothed at its foot with grass, but at the summit showing naked crags, on which lay bare strata of trap-rock and palagonite. From a considerable distance the traveller perceives, at the foot of the Laugafyell, light clouds of steam rising out of the ground, or sometimes thick columns of smoke whirling upwards in the air; but he soon finds himself in the midst of a complicated system of boiling springs, which break forth from a volcanic chasm, extending in the direction of north-north-east. The valley of the Geysir is mostly filled with a new alluvium, which has here and there undergone a subsequent elevation, extending northwards from the spring in a broad ridge. Through this soil, which has been gradually overlaid by a thick stratum of *kieselsinter*, the deposit from the springs, the Geysir bursts forth, and from the horizontal beds of this deposit there has formed, in various proportions round the Geysir and smaller fountains, a flattened cone, in the midst of which is a perpendicular cylindrical funnel, of larger and smaller diameter. In ordinary circumstances, the basin of the Geysir is filled with crystal-clear sea-green water, of the temperature of 82° (centigrade), and it flows in three small channels over the eastern slope of the cone. After some time, a sound, as of subterranean thunder, can be distinguished, resembling that made by a volcano during an eruption, and then a slight tremulous motion may be perceived on the rim of the fountain. When this has lasted some seconds, it ceases, perhaps for a time, and then begins again with increased force; the water in the basin begins to swell, and the surface becomes convex, and at the same time great bubbles of steam rise to the surface, and burst, throwing up the boiling water some feet high. Then it is again still, and the whole fountain is enveloped in clouds of steam. This phenomenon is repeated at regularly recurring intervals of an hour and twenty minutes to an hour and a half—perhaps for a day—until it suddenly assumes a different character. A heavier thunder is heard below; the water swells violently, and begins to heave and dash in the strongest agitation; and, after a few minutes, there shoots up a column of water, dispersing at the summit into dazzling white foam; this has scarcely reached a height of from 80 to 100 feet when, before its drops have had time to fall to the ground, a second and third follows, and rises still higher. Larger and smaller jets now shoot forth in all directions, some sideways in arches, others perpendicularly upwards, with a loud hiss, like that of a rocket—enormous clouds of steam roll upwards; then comes a loud detonation from below, followed by another column of water higher than any of the preceding ones, and mingled with stones; and after the phenomenon has lasted for a few minutes, the whole falls, and vanishes like the fantastic pageantry of a dream. Before the clouds of steam have had time to disperse, or the boiling water to run off the sides of the cone, the basin, which had seemed full to the brim, appears almost dry, the water having sunk nearly 3 feet.—*Walterhausen's Physisch-Geographische Skizze von Island.*

Enormous Increase of the Iron Business in Wales.—The increase of the iron business is, probably, unexampled in the history of the world. The population during the 40 years, from 1801 to 1841, increased in Newport from 1423 to 13,766; in Trevethin, from 1742 to 14,942; Aberystwith, from 805 to 11,272; Bedwelty, from 619 to 22,413. This is the progress in Monmouth; in Glamorgan the increase has been, if not in the same enormous proportion, still enormous in itself. Thus, during the same period, the increase at Merthyr has been from 7705 to 34,977; at Cardiff, from 1870 to 10,077; at Swansea, from 6831 to 16,787. The progress in the actual trade is shown by the returns to be equally astonishing; in 1829, the iron sent from the worker for shipment to Newport, was 45,462 tons; in 1847, 240,687. The quantity at Cardiff, in 1820, was 50,157 tons; in 1847, it was 220,953; and this is exclusive of a quantity of iron shipped from smaller ports, which owe their existence to the last 20 years. We scarcely believe that any other country could show a similar result in one branch of business. The quantity of coal sent in 1846 from the four ports of Cardiff, Swansea, Llanelly, and Newport, amounted to 1,847,318 tons. The value of the shipments of iron alone from the counties of Monmouth, Glamorgan, and Carmarthen, was estimated, in 1847, at four millions sterling.—*Church of England Quarterly Review.*

The Hawick Branch of the North British.—At length we are enjoying the benefits of railway communication throughout the whole line to Edinburgh. On Saturday a number of trucks, laden with coals from the Lothian pits arrived at the station at Wilton, and were very speedily disposed of at prices much lower than we have generally had to pay. Good coal can now be got in abundance at 7½d. and 8d. per cwt, and this of itself will be an incalculable benefit to the town.—*Kelso Chronicle.*

THE ASTURIAN MINING COMPANY.

SIR,—At a meeting of shareholders, held not a hundred miles from the city of London, a gentleman, who gave the name of Mark Antony, rose to address the meeting. I could not quite catch the names of the parties he referred to, but they will be, doubtless, recognised by all who take an interest in the affairs of the company.

The following is a careful report of the proceedings:—

Antony—Friends! shareholders! and countrymen! lend me your ears;
I come to mourn lost M—by, not to praise him.
The evil that men do lives after them;
The good is oft forgotten when they leave—
So let it be with M—by. The noble C——n
Hath told you, M—by was expensive.
If it were so, it was a grievous fault,
And grievously hath M—by answered it.
Here, under leave of C——n and the rest,
(For C——n is an honourable man;
So are they all—all honourable men;)
Come I to speak in M—by's memory.
He was my friend—faithful and just to me!
But C——n says he was expensive,
And C——n is an honourable man.
He hath saved many thousands from lead mines,
In which they else would certas have been consumed;
Did this in M—by seem expensive?
When some directors urged it, M—by refused:
Extravagance is made of less stern stuff:
Yet C——n says he was expensive,
And C——n is an honourable man.
You all do know, that these same lead mines
Were afterwards abandoned as useless
When thousands had been lost. Was't *his* expense?
Yet C——n says he was expensive,
And sure he is an honourable man.
I speak not to disprove what C——n spoke,
But here I am to speak what I do know.
You all did praise him once, not without cause,
What cause withholds you then to mourn for him?
Oh, judgment! thou art fled to brutish beasts,
And men have lost their reason! Bear with me,
My heart is now at Paris, there with M—by,
And I must pause till it come back to me.

1st Shareholder (aside)—Methinks he'll have some little time to wait.
2d Shareholder—If thou consider rightly of the matter,
We're nincompoops.
3d Shareholder—Are ye masters?
I fear they are worse who hold M—by's place.
4th Shareholder—Now mark him, he begins again to speak.
Antony—In Spain the word of M—by might
Have stood against the world: now is our company
Dissolved, and all the money we've invested in it
Lost to the Spaniards, who will fleece us.
Oh, masters! if I were disposed to stir
Your hearts and minds to mutiny and rage,
I should do C——n wrong, and P. too wrong,
Who, you all know, are honourable men:
I will not do them wrong. I rather choose
To wrong the lost—to wrong myself and you,
Than I will wrong such honourable men.
But here are books I've got, all signed by M—by,
I found them left at Mieres, with his journal;
Let the shareholders only hear his diary,
(Which, pardon me, I do not mean to read),
And see the accounts as kept by him at Mieres,
And they would rush at once to him at Paris,
Go on their knees to beg him to return—
Yea, say no other man could save them;
And, if he hesitate, tell him his mission
Is to develope the vast mines of wealth
Of the Asturias.
4th Shareholder—We'll hear the books. Read them, Mark Antony.
Shareholder—The books! the books! we will hear M—by's books!
Antony—Have patience, gentle friends, I must not read them;
It is not meet you know how M—by laboured.
You are not wood—you are not stones—but men;
And being men, hearing the books of M—by,
They will inflame you—they will make you mad:—
'Tis good you know not how he's been maligned,
For if you should, oh, what would come of it?
4th Shareholder—Read the books, we will hear them, Antony,
You shall read us the books; M—by's books.
Antony—Will you be patient? Will you stay awhile?
I have o'er shot myself to tell you of them.
I fear I wrong the honourable men
Who laid such blame on M—by: I do fear it.
4th Shareholder—They were traitors: honourable men!
Shareholder—The books! the diary!
2d Shareholder—They were humbugs! donkeys! The books—read the books!
Antony—You will compel me then to read the books?
Then, in your thoughts, transport yourselves to Miers,
And I'd describe the property we own . . . .
If you have tears, prepare to shed them now.
You all do know our company: I remember
The first time G——n did suggest it;
He heard from some sharp Frenchmen of the mines,
(To whom we gave twenty-five thousand sterling);
'Twas then that M—by went out to inspect them—
Reported coal and iron to be good,
And we rejoiced that we had got possessions
Equal in value to those owned by Crawshay,
Thompson, or Guest, or any iron prince
Who pays for leases annual forty thousand.
And while we hoped to make our speedy fortunes,
Mark how ambition further whispered us:
Making us hope that intercourse of commerce,
Causing a rapid circulation both
Of money and ideas, would civilise the country.
Judge, O you gods! how we've been disappointed!
A railway was projected by ourselves
To carry coal and iron to the sea,
And M—by was to build blast-furnaces,
Prepare the coal mines for their future work,
And to survey the country for a rail.
But whilst engaged in this last occupation,
A railway mania sprang up in England;
Railroads in all directions were projected,
And soon in Spain the effect was felt also:
From Avilcs to Leon 'twas intended
To make one yclept the "Royal North of Spain;"
And as this passed by our mines to the ocean,
M—by was told to give up our idea,
That railway being now no more required,
But, in its stead, to spend the surplus cash
In adding to the value of our mines.
Thus was expense incurred which otherwise
Might have been spared, for M—by built the works
With style and cost proportioned to the funds;
And when 'twas found the "Royal North of Spain"
Could not be executed, we were left
Helpless indeed, for, with no railroad there,
The mines are worse than useless, as the cost
Of carriage to the sea eats up the profits.
But M—by ought not surely to be blamed;
He was not even named the engineer
Of the "Gigantic Myth;" and other slights
Were passed upon him by the directors,
So that he then resigned the place he held.
This independence hurt our good directors,
So that they blamed him for their own mistakes!
And, now that they have got us in a great mess,
Methinks 'tis shame alone that hinders them
From calling him to aid and extricate them.
'Tis we must do it though, if they will not,
For otherwise our money will be lost.
M—by, be sure, alone can extricate us,
For he the wily Spaniards understands,
And if they only lift a little finger,
To prig the mines or iron-works at Mieres,
He'll stop at once their thieving inclination,
And give us back our property all sound.
1st Shareholder—Oh, joyful prospect!
2d Shareholder—Oh, base directors!
3d Shareholder—Oh, monkeys! humbugs! [directors.
1st Shareholder—We will be reveng'd; revenge; scourges and horseponds—seek the
Antony—Stay, shareholders!
1st Shareholder—Peace there: hear the noble Antony.
Antony—Good friends, sweet friends, let me not stir you up
To such a sudden flood of mutiny.
They that have done these things are honourable,
And will no doubt with reasons answer you.
Shareholder—We'll mutiny.
1st Shareholder—We'll duck them in a horsepond.
3d Shareholder—Away then, come, seek more shareholders.
Antony—Yet hear me, countrymen! yet hear me speak.
Shareholder—Peace, ho! hear Antony, most noble Antony.
Antony—Why, friends, you go to do you know not what;
Wherein hath M—by thus deserv'd your loves?
Alas! you know not: I must tell you then.
You have forgot the books I told you of.
Shareholder—Most true; the books—let's stay and hear the books.
Antony—Here are the books, and under M—by's seal.
In every week at Mieres he spent
Three nights at least, whole nights, at office work.
2d Shareholder—Laborious M—by! we'll revenge his loss.
3d Shareholder—We'll have him back.
Antony—Hear me with patience.
Shareholder—Peace, ho!
Antony—Moreover, his accounts were kept so strict—
He looked so sharply after all the people,
That numberless complaints were made at times
Of the economy with which he paid them.
Also the Spanish workmen were dismayed
To find how very few *cigarillas*
He would permit them; and for ever work—
Work all day long, they said, was too fatiguing;
But still got no excuse, and did obey.
Here was a M—by; when comes such another?
1st Shareholder—Never, never! Come—away, away:
Whip the directors all round Austinfriars,
And pinning all their coat-tails to each other.
Make them stand on their heads.
2d Shareholder—Go fetch whips.
3d Shareholder—Pluck down benches.
4th Shareholder—Thistles and stinging nettles—fetch anything.
[*Exeunt Shareholders, making a great uproar.*

October 22. R.

ST. JOHN DEL REY MINING COMPANY.

SIR,—In your journal of last week, you did me the favour to insert my letter to the shareholders of the St. John del Rey Mining Company, and I now wish to add, that it never was, and never will be, my intention to injure the interests of the Company, but merely to put an end to the murderous system pursued at Morro Velho, of over-working the slaves. And it is for the interest of the shareholders that this should be done immediately; for, although for some months, perhaps, the produce may be very good from the mine, yet it is impossible that it can continue so, as, in consequence of the great mortality amongst the negroes, the mine cannot be properly worked.

Let the shareholders insist upon such a change as will prove to the world, that although they wish for good profits, they do not desire them at the expense of the lives of their fellow-creatures. I would suggest to them to send out two commissioners to Morro Velho, to ascertain in what state the company's affairs are, to discover what are the liabilities to the slave-owners (which will, no doubt, prove a formidable feature in its future prospects), and to give them full power to remove the present superintendent, who is, in every respect, incompetent to retain his position there. I think it right to observe, that the chairman, so far from condemning the conduct of the superintendent at Morro Velho, has just granted him a gratuity of 500*l.*, which is nothing more or less than a premium for cruelty; and it would have been only fair to the shareholders that they should have been advised of this step, before using their funds for such a purpose. It would be greatly to the advantage of the shareholders to elect three additional directors, so that there might not always be a majority on the side of the chairman.

It is unnecessary now to enter into further details on the subject of this ill-managed establishment, except to state that another fact has been mentioned to me, which will prove that the negroes do not work over-time of their own free will, as stated in the chairman's circular of the 19th September—viz., that they (the negroes) conceal themselves, in order not to be forced to work "over-time," and that the superintendent sends his overseers to discover, and oblige them to do so. Shortly, the whole matter will be brought before the public in a court of law, when I shall be prepared to adduce such evidence as will verify all the statements I have made.—W. ROUTH: *City, October* 24.

P.S.—In confirmation of the truth of what I stated respecting the difficulty, if not impossibility, of hiring slaves at Morro Velho, I give the following statement, for the truth of which I pledge myself:—

Sen. Antonio refused to hire, for working inside the mine	12 slaves.
Sen. Assico, of Ouro Preto, for same purpose	5 "
Sen. Antonio Pinto agreed to send 40, and did not	40 "
A person, through Ouro Preto, offered, through Mr. Paulo Santas, 14 blacks; at least, he enquired the terms, and finished by hiring them to a tile maker	14 "
The Brumado blacks were withdrawn, for the alleged reason of excessive mortality	53 "
Col. Anacleto requests to withdraw his blacks, in consequence of mortality	9 "
Total	153 slaves.

ST. JOHN DEL REY MINING COMPANY.

The directors of the St. John del Rey Mining Company have seen, with the utmost surprise, that the late secretary, Mr. W. Routh, has issued a circular letter to the proprietors of the company [see last Journal], in which he takes upon himself to deny the accuracy of the statements contained in the circular letter issued by the directors on the 19th of last month, and bearing his signature. The statements made in the last-named circular were wholly taken from the advices received from the mines; extracted, in fact, for the most part, by the late secretary himself. He was present at the board when the circular was read and considered. He did not utter a word of dissent from any part of its contents. At the next meeting of the board, being the 28th Sept., the following minute occurs in the late secretary's own handwriting:—"The secretary reported, that the circular issued by the directors on the 19th inst. had been forwarded to the shareholders who received the last dividend." Neither did he on that occasion intimate to the directors that he had been made the instrument of circulating any statement which was not true. The deaths which have occurred amongst the negroes are correctly stated in that circular. By subsequent accounts it appears that the total number of deaths in July (up to the 28th of the month) was five. In the month of June the number was seven. There is nothing whatever in the advices from the superintendent, or in the monthly reports transmitted to the directors, that can in any degree warrant the imputation that the negroes have been overworked. It would be contrary to the positive instructions of the directors, and equally so to the well-known feelings of the superintendent, who has devoted himself most assiduously to the welfare of the negroes, in every way. The superintendent has been informed of the rumours which have been circulated on this head, and the directors have no doubt he will effectually repel them. In the month of June, 1848, he wrote as follows, in reference to some hired negroes who had just arrived:—

The gentleman who came in charge of these negroes, says, that such is the reputation Morro Velho has acquired for the excellent treatment and care of the blacks, that all the blacks now hired at —— will be sent here as fast as their present contracts expire; and, in fact, 10 blacks, some of whom had been for the last two years working at —— have arrived here for hire this very day, and are now waiting the arrival of their owner to make the requisite contracts for them.

The recent sickness has naturally created alarm, and will prevent the superintendent's being able to hire more negroes, in any number, until it shall have passed away. Regarding the removal of nine negroes from the company, to which the late secretary adverts, the following is the superintendent's advice thereon:—

June 13.—Nine blacks, belonging to D. Anna Joaquim de Jesus, of Cocaes—namely, eight men and one woman—have been taken away this morning, the twelve months for which they were hired being expired. They were a very bad set, and I was heartily glad to get rid of them. The owner was very desirous of leaving them here.

The late secretary states, "at the time the directors issued this circular, the deaths of male adults amounted to 43, out of a population, more or less, of 170 borers (the free borers are not included), kibble-fillers, &c., perhaps 96 more." By the medical reports, it appears that, from the 1st of January to the 30th of June, being the period comprehended in the circular of the directors, the deaths of borers were 13 from sickness, and one from mine accident. The number of borers employed on the 31st of December, 1848, including negroes and natives, was 206; the number employed on the 30th of June last, was 211. With respect to the working the mines, annexed hereto are copies of the head mining captain's reports thereon for the last four months, the period subsequent to the last annual report. They are a sufficient answer to the assertion that the "mines are unfairly worked." The following are particulars of the cost and returns for the last four months, as made up by the superintendent, which the directors believe to be perfectly correct:—

	Cost.	Produce.
March	£4313 4 3	£7841 15 11
April	4865 16 10	8016 13 10
May	4216 3 10	7914 15 11
June	4915 13 6	7773 14 9
	£18,310 18 5	£31,547 0 5
Profit	13,236 2 0	

The following is a statement of the company's finances:—

Balance at the bankers	£11,018 0 0	
Deposited with Overend, Gurney, & Co.	10,000 0 0	£21,018 0 0
To Pay—Drafts running		8,000 0 0
Surplus		£13,018 0 0

Reserved Fund deposited with the Bankers.

Exchequer Bills	£ 5,000 0 0
Newcastle and Carlisle Railway Debentures	5,000 0 0
	£10,000 0 0

There is about 1500*l.* to pay for stores preparing for shipment. On the other hand, a remittance of gold is due by the packet to arrive next month.

[The directors append the various reports received from the mines in full, but, as the material parts have already appeared in the *Mining Journal*, there is no necessity for our publishing them. We give, however, the following particulars, as of general interest. The despatches last received will be found under the head "Foreign Mines."]

Morro Velho, March.—The number of borers in the different mines, the waggons trammed, and the holes blasted, have been as follows:—

	Borers.	Waggons Trammed.
Bahu Mine	79·55	2028
Cachoeira Mine	134·48	3661
	214·03	5689

Yielded at the reduction department, 6016 tons; of this about 54 tons came from the West Quebra Panella, that were not broken by the above borers—consequently, the duty per borer is 27·8 tons.

Holes blasted throughout the mines 5392

Morro Velho, April.—The number of borers in the different mines, the waggons trammed, and the holes blasted, have been as follows:—

	Borers.	Waggons Trammed.
Bahu Mine	84·13	1843
Cachoeira Mine	134·91	3138
	219·04	4981

Yielded at the reduction department, 5384 tons; or 24·58 tons per borer.

Holes blasted throughout the mines 4700

Morro Velho, May.—The number of borers in the different mines, the waggons trammed, and the holes blasted, have been as follows:—

	Borers.	Waggons Trammed.
Bahu Mine	81·33	2067
Cachoeira Mine	128·29	3504
	209·62	5571

Yielded at the reduction department, 5911 tons; or 28·19 tons per borer.

Holes blasted throughout the mines 5296

Morro Velho, June.—The number of borers in the different mines, the waggons trammed, and the holes blasted, have been as follows:—

	Borers.	Waggons Trammed.
Bahu Mine	82·96	2141
Cachoeira Mine	128·61	3377
	211·57	5518

Yielded at the reduction department, 5850 tons; or 27·65 tons per borer.

Holes blasted throughout the mines 5040

When Mr. Keogh, the present superintendent, left London, he was furnished with a letter of instructions from the directors, of which the following is an extract, relating to the care of the negroes:—

Extract from Letter of Instructions to Mr. Keogh, dated London, 19th March, 1847.

Connected with the consideration of labour, necessarily comes the important and interesting question of the treatment of the negro force. From the statements before the board contained in the superintendent's advices, they have no reason to believe that the negroes are in any respect overworked. There does not seem the least ground for such an apprehension. The question has been investigated on several occasions, and the result completely, as the board believe, established this point; and considering that, as slaves, they would be obliged to submit to any amount of labour that might be forced upon them, it is very satisfactory that the board are enabled to feel conscientiously at ease on this point. But, in addition to this, the board are very desirous to feel assured that everything practicable is done for their reasonable comfort. The cultivation of little gardens, the keeping of pigs and poultry, and whatever else can tend to their spending their leisure hours in an innocent and rational manner, ought to be encouraged amongst them. Any rewards for good conduct which should stimulate the exercise of the domestic virtues, would be well bestowed. They ought to be encouraged to feel that those whom they serve are kind masters and protectors to them—that they take a real interest in their welfare—that while the faithful and diligent discharge of their daily labour is punctually required of them, they may rely, in return, on every reasonable indulgence and encouragement. Any attempt on the part of the English miners who superintend them to treat them with harshness or severity should be instantly checked. The feeling inculcated throughout the establishment towards the negroes should be one of kindness and good-will, arising from the conviction, that although the colour of their skin be different from ours, they are creatures of the same Almighty Creator, and entitled to the utmost forbearance at our hands, by reason of the inferior position in which it has pleased Providence to permit them to be placed. The board will be glad to know specifically what is doing with the training of the children of the negroes; and they will thank you to send them a list of the names of all the children, with their ages, and the employments to which such of them as are competent to any employment, are placed. The board trust that the training of them to be smiths, carpenters, masons, &c., may render them very valuable to the establishment. They would like also to know whether it is not practicable to train them to the performance of all underground mining works, timbering, blasting, &c., so that it should be possible, for instance, at a future time to carry on all the workings by negroes, with merely English underground agents to direct them. Everything should be done to promote order and cleanliness in their dwellings. Matrimony, without being made a matter of compulsion, should be distinctly encouraged, and all immorality of conduct effectively discountenanced. The board are already informed that they regularly attend the service of the church, and that the clergyman of the village instructs them in Christian doctrine.

All the communications which the directors have received from Mr. Keogh, show that he has, in every respect, carried out these instructions, in letter and in spirit. The question of allowing the negroes to work overtime had long been matter of serious consideration at Morro Velho. On the 21st June, 1847, the following entry occurs thereon in the superintendent's diary:—

Held a particular conference this morning with Mr. Birt, Captain Treloar, and Mr. Richards, on the subject of allowing the borers to work on overtime. Capt. Treloar and Mr. Richards were decidedly in favour of doing so, not only because it will be beneficial to the company, but because it will tend to improve the condition of the blacks, both mentally and physically; and that, in showing them that they have something to look forward to—something to live for besides the dull routine of daily task—the good effects derived from mental satisfaction will more than counterbalance the wear and tear of additional labour. Mr. Birt, while he concurred generally in these views, pointed out the necessity of proceeding with the greatest circumspection and caution, and the following arrangements were decided on:—

1. None but first-class blacks to be allowed to bore on overtime.
2. The mining captain to furnish two lists of the men he permits to bore overtime—viz.: one list to the medical officer, and a copy to the superintendent.
3. The surgeon, being furnished with the list, will continually watch and inspect each of these individuals, so as to detect the slightest symptom of any bad effect arising from their additional labour.
4. The night corps not to be allowed to bore on overtime, because it would detain them in the mine till to late an hour in the morning, and would, therefore, prevent them from getting a sufficiency of sleep.
5. Boring on over-time to be confined to the day corps, and (at all events at first) not to exceed one hole per man per week.
6. But the night corps, and the second-class blacks, though excluded from "boring" on over-time, are to be allowed to do "surface work" on over-time for two hours each day—say, from half-past 10 to half-past 12 o'clock.

June 22.—Nothing could exceed the joy of the borers on Capt. Treloar's announcement to them this morning, that they would be allowed the privilege of earning some money, by boring an additional hole weekly on overtime. They jumped, they danced, they shouted, they gave *vivas* for the superintendent, and for their mining captain, and then went off to their daily tasks as happy as princes.

Oct. 22.—Since the foregoing was prepared, the directors have received further advices from Morro Velho, to the 18th August—

The produce for July was	£7899 4 2
The cost "	4794 11 6
Profit	£3104 12 8

The superintendent says—

The supply of stone exhibits but little alteration as yet; but I am glad to say, that thanks to the diminution of sickness on the one hand, and to the increase in our number of native borers during the last few days on the other, we begin to break more stone; so that, in a day or two, I hope we may again be enabled to stop bringing in from the refuse heaps.

BOLANOS MINING COMPANY.

SIR,—The present position of the Bolanos Mining Company is singularly analagous to that of an *able* seaman, who is cast, by an accident, into the foaming surge. He is an expert swimmer; his struggles, therefore, are prolonged; it is in the power of those on board ship to save him, but they ruthlessly leave him to his fate. He still floats upon the surface, however, long after he is ceased to be regarded by his treacherous comrades, till at length, exhausted and heart-broken, he sinks to rise no more. This idea may be somewhat far fetched and Utopian, but who will question its truthfulness? The struggles of the unfortunate company, long after its evident desertion by those who ought to have supported it with their capital (the rope that should have been cast to the forsaken mariner), are as fruitless as meritorious. The conduct of the shareholders has been termed *suicidal*: it is worse. Does a man commit the act of self-destruction if of *sound* mind, or unless the future is so shrouded in doubt and mystery that it oppresses and awes him, and induces him, rather than move forward to meet at least an uncertain fate, to snap with his own hand the thread of his existence, or unless overwhelmed with the weight of his misfortunes?

Far be it from me to presume to assert, that the proprietors *are* of sound intellect. They may or may not be; but I do assert that they cannot plead as an excuse either of the two last-mentioned. A misfortune it certainly has been that the shares should have fallen so low in value; but then this misfortune is very considerably alleviated, when it is taken into consideration that, at the expense of a very trifling additional outlay, which it cannot but be in their power to make, they may purchase the means of redeeming their loss—ah! and even of paying a premium.

Be it not my task to point out the good qualities of the Cerro del Bote Mine; it has been done already, and by one whose name is a guarantee of his capability of judging—I mean by Mr. Shoolbred. Besides it is a *virgin* mine; its hidden riches have yet to be brought to the light of day; and everything is in readiness to consummate the most fervid wishes respecting it. The very district in which it is located, speaks in its favour; and the silver veins of Zacatecas are second to *none* in Mexico.

Many of the old shareholders have complained of the *fancied* injustice done to them in the late attempt of the directors to procure funds. Is this reasonable? Were they not in the first instance offered the pre-emption of the new shares? Did they accept the offer? No, they declined it, with perhaps an exception or two. Well, then, *what* could be done? Did they wish to play the dog in the manger? Of what use is it talking of *swamping* them? Were they afloat when the attempt was made?

The case is simply this, and is as plain as a sum in the Rule of Three. The old shareholders held shares which were literally not worth a fraction, the result of the repeated depressing intelligence from Mexico. It became necessary, therefore, to avert a dissolution, to raise a further capital wherewith to properly work the mine; and this could be done in no other way than by the creation and sale of a certain quantity of new shares. The original owners had the preference; the amount raised on them was to be paid off before a halfpenny could be paid on the existing shares, after which they would be subject to all the rules and regulations of the old shares; and should things at a future period take a favourable turn, both old shares and new would advance in price, and the new would thus be the means of *repairing* the old ones. True, it would be desirable for the old registered shareholders to have as *few* more admitted to their ranks as possible; as in the event of a dividend being declared, the smaller

the number to divide it amongst, of course, the better. It was in the power of these proprietors to obviate this in a great measure, but they declined to exercise it. It would appear that the amount of capital realised by the last attempt is 13,800*l.*—these figures speak for themselves. Had the company no liabilities to clear off, or were they of a less serious nature, then I should affirm that with this sum a very fair trial might be given to the mine; but it would be absurd to proceed to pay off old debts to an extent to leave the directors as moneyless as before; and all know that a concern fettered with liabilities is weakened considerably. What then can be done? The answer is as simple as the question. There is, it is evident, no help for it but to wind-up, unless those who have subscribed under the late resolutions will have the generosity to come forward with a larger sum; or unless those who, until now, have hung fire will, at the eleventh hour, subscribe their quota—of these I know there are not a few.—NIL DESPERANDUM: *October* 23.

MINING IN ST. JUST AND NEIGHBOURHOOD.

SIR,—Having noticed in your valuable Journal of last week an illusion to this district, and the views taken by your correspondent assimilating somewhat with my own, as having for a considerable period felt a degree of anxiousness to become acquainted with the western locality, and, therefore, from time to time having paid particular attention to the progress of the mining interest in that district, although statements of accounts have appeared in your paper, yet never having had the pleasure of seeing any reports, I cannot but appreciate the spirit which the gentlemen in that neighbourhood have manifested to all mining operations, and for their continued perseverance in carrying out any object which may be taken in hand. I may add that the parish of Tancreed appears to present a new feature to that district; if such is the case, why not parties who feel an interest in mining recommend the locality to the public? for I am convinced that there are many who are willing to win for themselves a garland, could confidence be again established with parties in Cornwall; all that is wanted is fair play. I have long considered the importance of opening a new field for mining speculation, and trust some of our capitalists will embark their capital in mining, where they will get 30 per cent., instead of (as often has been the case when they have been mixed up in railway speculations) coming off minus.

October 25. A FRIEND TO MINING.

MINING NEAR TAVISTOCK—WHEAL MARY EMMA.

SIR,—It was with no little surprise I observed, in your Notices to Correspondents of the 18th inst., that you objected to insert my letter on the subject of the tin mine near the Dartmoor Inn, on the ground of my remarks being unfair. I am the more surprised at this, as it is the first time I have been charged with the slightest unfairness during the many years I have been an occasional correspondent in the Journal. Allow me, once for all, to disclaim any intentional unfairness, or personal feeling, towards the writer of that report, whom I have long known as an energetic miner and a very estimable individual. Having premised this much, allow me, on the part of the mine proprietors and agents of Cornwall and Devon, to repudiate your idea of such gross ignorance as you impute to them in the Notice referred to, when you assert—"True, our 'Mineralogist,' fastidious in his science, may be correct in saying he never had the good fortune to meet with native tin, or its oxide, in the form of the *cube*; but he is, doubtless, perfectly aware that black oxide crystallises, in a solid figure sufficiently approaching that mathematical form, to induce the whole tin mining population to adopt the term." I need scarcely remind you that the form of crystal is a characteristic of the metal, or other matter taking the crystalline form, and is often sufficient to determine the nature of the matter under investigation, and that writers on crystalography are divided in opinion as to the *primary* form of crystal taken by native oxide of tin. One of the most celebrated writers on this subject maintains that the primary form of crystal of the native oxide is the *cube*, but adds it has never been found in that form; whilst another authority contends for the octahedral form, and adds crystals have been found of 130 varieties. To determine this point is, therefore, a most interesting object in a scientific point of view. If the crystals reported on in the Journal of the 6th inst. were really cubes, it would add at least one fact to the arguments.

If I may be allowed to express an opinion, it would be, that oxide of tin, like iron pyrites, assumes various forms, the latter mineral being found in cubes, octahedrons, dode-cahedrons, and numerous other forms. Having, since the date of my last letter, had an opportunity of examining a very splendid sample of oxide of tin, from the Dartmoor Inn mine, I feel the more interested in pressing my question; this sample is of itself an interesting study, presenting numerous crystals of the primary form, octahedral. Are there also in the same lodes crystals of the cubical form? This is the question involved in my former letter, and which I shall be most happy to find answered in the affirmative. The subject is most interesting to many naturalists, and particularly to myself, having paid some attention to this matter for many years past, but hitherto without finding cubes of tin ore. I assure you the object of my correspondence is to ascertain facts.—MINERALOGIST: *Charing-cross, Oct.* 24

"KITTING" AT WHEAL SHEPHERD'S MINE.—At the Cornwall Midsummer Sessions, Thomas Whitford was indicted under the statute 2d and 3d Victoria, for taking and removing lead ore in Wheal Shepherd's Mine, in Perranzabuloe, with intent feloniously to defraud Mr. James Gray and others, who are adventurers in the mine. Mr. Stokes appeared for the prosecution. John Remfree, a tutworker at West Shepherds, in August last cut a lode containing what was termed steel-lead ore, mixed with jack. He worked on the lode three or four days, and broke a quantity of ore, which belonged to the adventurers; it was taken to the twenty fathom level at the bottom of the engine-shaft.—Thomas and Elisha Harris were working as tributers in the same level on the main lode, where the ore was quite different from that of the new lode, where witness was working. On the 4th of September witness came to grass, and by Captain Clymo's directions looked at Harris's pile which had been sent up; some of the owner's steel-lead was mixed with the tributers' ore in that pile.—John Vivian, who was employed in wheeling the ore which the tutwork men broke, deposed that the prisoner was the only man employed in filling the kibbles on the 4th of September.—Constantine Tisser was employed in landing the kibbles on the 4th of September; saw that the tributers' ore, when landed (after Capt. Clymo had had water thrown over it), was in a mixed state.—Capt. Richard Clymo, of West Shepherd's Mine, produced stones of ore from the tributers' pitch and from the new lode, and said they were widely different.—The Chairman told Capt. Clymo that the samples should always be taken in the presence of the suspected party; Capt. Clymo replied that the prisoner walked away. The Capt. farther stated that when he discovered the ore had been mixed, he sent for Harris and Whitford, the prisoner, to come to grass. Harris, in the hearing of Whitford, denied that he mixed the work; the captain then accused Whitford, who said he did not do it, nor did the tributers. Harris then said that Whitford did it; that he brought out a barrow of his work and lodged it on the pile of "attle," and asked Whitford whether he had cleaned up the owners' work, on which he said he had all that he should clean up, and that a few shovels-full of owners' work did not matter much. Capt. Clymo said it was usual for the kibble fillers to clean up all the owners' ore, and that the mixture of ore increased Harris's pile by one-half in value; about 1 cwt. of lead had been mixed with the the tributers' pile. There was about nine feet distance between the lodes; they were parallel, the ground between was part spar and partly killas, and the same sort of ore was not found in the two lodes.—Edward Michell, working at East Shepherd's, deposed that Whitford had told him he mixed the owners' ore with the tributers'. (This, prisoner denied.)—Prisoner, in defence, said the mine owed him money; that before he was accused of mixing the ore, he had put the matter in the lawyer's hands, and that Capt. Clymo had told persons he should not have prosecuted had not prisoner put the mine to cost.—Capt. Clymo denied this, but a witness, called Rowe, asserted that the captain had said so.—In answer to the chairman, Capt. Clymo said that if this charge were substantiated, the prisoner would not receive his money, that being the custom of mines in such cases.—The Chairman observed that there was apparently no benefit derived by the prisoner from the act attributed to him, and as there were other circumstances in the evidence which told in his favour, the court would stop the case, and direct a verdict of acquittal.

FOREIGN ARRIVALS AT SWANSEA.—Since our last the following vessels have arrived:—The *Young Queen*, Penhorwood, from Cuba, with about 500 tons of copper ore, consigned to the Cobre Company; the *Esther Francis*, Michael, from Cuba, with 476 tons of copper ore, consigned to Messrs. Leach, Richardson, and Co.; the *Mary Ridley*, Clough, from Cuba, with about 480 tons of copper ore, consigned to the Cobre Mining Company; the *Eliza Ann*, of Pwllheli, with a cargo of spelter from Hamburgh, consigned to Messrs. Pascoe Grenfell and Sons; the *May-flower*, ship, from Quebec, with a cargo of timber for Messrs. J. Richardson and Co.; the *Mercy*, Pezzeck, from Port Adelaide, with about 500 tons of Australian copper ore; the *Prince Albert*, of Cowes, from Reoncellia, with 100 tons of copper ore, consigned to Mr. W. Williams.—*Swansea Herald.*

A SALT WATER SPRING IN A COAL MINE.—During the past week the miners employed in sinking down to the Ardley Mine, at what is commonly called the Patricroft Colliery, Ince, completed their task, and during their progress they have cut through a white stone rock of 15 yards thick, in the centre of which, at 410 yards from the surface, they found a spring of salt water, which, according to their account, makes about 20 gallons per hour. The water is clear and bright, and on a temporary analysation is found to contain about 14 grains troy of the different kinds of salts to one ounce of water. The mines are the property of Messrs. Lancaster, the Ince Hall Coal and Canal Company; and it now remains a question as to how far this excellent alkaline spring might be rendered available for baths, &c. Below this rock the miners cut through various metals for about 15 yards, when they came to the mine, which is 4 feet 6 inches thick, exclusive of what is called the "huzzard" coal on the top. The miners have frequently found salt water in the mines in Ince, but we believe that this is the first discovery of the source from whence it emanated.—*Preston Chronicle.*

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—The lode in the 60 fm. level, east of Field's engine-shaft, is 5 ft. wide, all good orey work for copper ore, and worth 20*l.* per fm.; the 60 fm., west of said shaft, has not been driven for the past week, the men having been engaged in opening plat. The 50 fm. level, west of the engine-shaft, is for the present suspended, and the men are put in the 60 fm. level east of the engine-shaft, and the sumpmen removed to prepare to fix plunger-lift at the 50 fm. level. The ground in the 80 fm. level east is softer for driving, and the lode just as reported last week. There is no change in any other part of these mines.

BARRISTOWN.—The lode in the stopes, in the bottom of the adit level, is looking well, producing, to the west of the slide, 1 ton of lead per fm.; the stopes in the back of the adit level are at present poor. The lode in the 24 fm. level end, west of the engine-shaft, is well mixed with lead, about 18 in. wide. We shall ship a small cargo (between 20 and 25 tons) of lead on Monday next. We have not yet cut the lode in the cross-cut south from kiln shaft.

BEDFORD UNITED.—In the 108 fm. level, east of the engine-shaft, the branch or lode is 10 in. wide, composed of spar, with spots of ore occasionally; in this level, east of Bailey's winze, we are driving by the side of the lode, and in this level west the lode is producing saving work. There has been no lode taken down in the rise in the 90 fm. level. In the winze in the 80 fm. level east the lode is 2 ft. wide, producing some saving work. We are dessing the lode in the 70 fm. level east.

BLISLAND CONSOLS.—The agent (Oct. 24) reports—We have cut our large tin lode 120 fms. west of the present shaft, where it contains good stones of tin, and is equally as kindly as in the shaft; the lode is 1 fm. 4 ft. big. The copper lode that we cut in the Town-place we have traced up, and it forms a junction with the tin lode about 20 fms., above the Town-place. We have cut another tin lode 8 fms. to the north of the large lode, and which will form a junction with the large lode in depth. We are getting on with all speed in our adit, having got through the hard bar of ground which we have had for this last month; from the quantity of water coming from our end, I think we are not far from a lode. The masons are busy about the wheel-pit; both walls will be finished this week, and the foundation laid. The iects are finished, and the wheel on the ground ready for erection.

BRYN-ARIAN.—I do not see any alteration in the appearance of this mine since my last report. The lode in the 10 fm. level, west from the engine-shaft, is 4 feet wide, with small branches of ore throughout. The lode in the rise in the back over this level, east from the shaft, is large, and yielding 15 cwts. of ore per fm. The lode in the winze sinking under the adit level, east from the shaft, is 6 ft. wide, producing 1 ton of ore per fm.; the stope in the back over this level, east from the shaft, produces 1 ton of ore per fm.; the stope in the back over this level, west from the shaft, is yielding 10 cwts. of ore per fm. We have suspended the working of the stope in the bottom of the adit level, east from the shaft, until there is a communication made from the winze sinking under the adit level, to meet the rise from the 10 fm. level.

CALLINGTON.—At the north mine, in the 125 cross-cut, the ground still continues hard for driving, but hope, as we get nearer the lode, our progress will increase. In the 112 fm. level north we are laying open good tribute ground; in the 112 fm. level south the lode will produce from 5 to 6 cwts. of silver-lead ore per fm. In the 90 fm. level south we have cut through the great south or copper lode, which has improved the lead lode; it is now 1 ft. wide, opening good tribute ground. In the 70 fm. level east, on Kelly Bray lode, we have a decided improvement, the lode being now 2 ft. wide, producing 4 tons of copper ore per fm. At the south mine, in the 125 fm. level north, the lode is still in disordered ground; the 125 fm. level south will produce 5 cwts. of silver-lead ore per fm. The 112 fm. level south will produce 6 cwts. of silver lead ore per fm. The 90 and 40 fm. levels are in ground producing but little ore. Our tributers throughout the mine are working with more spirit than for some months past.

CAMBORNE CONSOLS.—The agent reports—It affords me the highest gratification to announce the discovery of very rich silver ore in the 20 fm. level, being 60 fms. from the surface. You are already aware that, for some time past, we drove on the lode, known as the "silver lode," from its having been very productive of this precious metal, close upon our eastern boundary in Dolcoath Mine; and that for the first few fms. off the cross-course we found it disordered, and of very little value. But as the lode had recently been showing signs of improvement, I continued to pay my best attention to it, and I am happy to say the success which has crowned my labours far exceeds my expectations, having cut on Tuesday last a rich branch of silver ore. I enclose the assay of a stone, worth upwards of 300*l.* per ton. I could send you a stone broken on Thursday, weighing nearly ½ lb., which I take to be worth about 2000*l.* per ton; but that would not be a fair sample of ore, as such stones are too rich to be numerous, unless we meet with unparalleled good fortune. I think, however, the lode will not fail to dress up to about 250*l.* per fm., the cost being 63*s.*, which may be about the average produce, although the same lode produced in the Dolcoath Mine upwards of 8000*l.* within very few fms. of our set, and within the space of a few months. I enclose the certificates from two of our first assayers in the county, who assayed specimens of different qualities. You will observe that the one from Mr. B—— shows a produce of 1047½ ozs. of silver in a ton, and that from Mr. T—— a produce of 1275 ozs. per ton. This astounding discovery is the more of vast importance to us, as we have made it close upon our eastern limits, and have, therefore, near 400 fms. of unwrought ground before us, which will enable us to continue on this lode for several years to come, besides that there are very good indications of its bearing downward, in which case we shall be able to drive on it also from the 40 fm. level, where I expect we shall cut it in about a month. I am also happy to say that a considerable improvement has taken place in the end upon our caunter lode, which, as it must be nearly in contact with Tyndale's lode, is a very flattering circumstance; for, although it will be very acceptable to make a large fortune by the silver lode, after all, copper ore is our legitimate pursuit, as it is to that we must look for the more permanent, though less brilliant and speedy, profits; and from the present appearances of the adit end, there can be no doubt of our finding it in great abundance, the lode giving out a vast quantity of water and beautiful stones of ore.

CARTHEW CONSOLS.—In the upper mine, consequent on meeting with a quantity of old timber, &c., in the engine-shaft, our progress in clearing has been rather impeded; but we are now very near the bottom of the sink. We have cleared the 55 fm. level south to the end, and find in it a very large and promising lode. I find no other change in the mine of importance since my last, with the exception of an improvement in the lode in the end, in the 28 fathom level south, which produces good stones of lead and copper. The tribute department looks much as last reported—viz.: very well indeed. Thursday last closed the sale of lead and copper ores. The purchaser of the 21 tons of lead ore is Thomas Somers, Esq., at 13*l.* 5*s.* 6*d.* per ton, and Messrs. Edward Pontifex and Wood the 3 tons of lead, at 9*l.* per ton, and Messrs. Sims Willyams and Co. the 6 tons copper ore, at 5*l.* 16*s.* per ton. Our next sales I anticipate will be considerably augmented. In the lower mine, I can notice no particular variation here this week; the lode and ground continues much as of late.

CWM EBFIN.—The stopes in the back of the 20 fm. level, from the engine-shaft 10 fms. east, is worth 6*l.* per fm.; the sink under the 20 fm. level, 25 fms. east of the engine-shaft, is worth 12*l.* per fm. The stope, from 30 to 40 fms., east of the engine-shaft, is worth 12*l.* per fm.; ditto, from 40 to 50 fms. east, is worth 10*l.* per fm. The 20 fm. level, east of the whim-shaft, is poor; the 20 fm. level, east of Roberts's winze, is worth 10*l.* per fm.; the 20 fm. level, west of Roberts's winze, is worth 8*l.* per fm.; the stopes in the back are worth 10*l.* per fm.

DEVON AND COURTENAY CONSOLS.—The lode in the winze sinking in the bottom of the 40 fm. level continues large, and is composed of caples and spar, impregnated on the north part with spots and branches of ore. In the end driving east from the rise, in the back of this level, the lode is 2 ft. wide, a part of which, about 6 in. wide, is good work, worth 6*l.* per fm. In the 80 fm. level, driving north on the costean cross-course, to intersect the gossan lode, the cross-course is large, and the ground favourable for driving. The pitches in the back of this level are without alteration.

EAST CROWNDALE.—Since my last report the lode in middle shaft has improved for tin. The stope in the back of the 17 fm. level is tinny. In the 28 fm. level, west of Diamond's shaft, the lode is large and well defined, producing mundic in abundance, and spotted with copper. We have found a lead course going off from the tin lode about 15 fms. east of Diamond's shaft, and have commenced driving on its course—we find it about from 12 to 15 in. wide, and producing some good stones of lead, which we believe to be rich in silver. Our tin ores will be ready to sample at the usual time, and the copper ore will be ready by the end of next week—quantity of copper, we hope 20 tons; of tin I cannot say the quantity as yet, but I fear not more than 3 tons. The rods, bobs, &c., are all in readiness for pumping when wanted. The pumps are home.

ESGAIR LLEE.—The sumpmen have completed cutting down the shaft below the adit, hanging tackle, &c., and commenced sinking on the 19th of this month. The south lode in the deep adit, east of the engine-shaft, is much the same as last reported. The north lode in the deep adit, east of the cross-cut, is improved since my last report. The caunter lode, in the shallow adit, west of Morgan's winze, is 4 ft. wide, and looking quite as well as last reported. We have nearly completed cutting plat at the 12 fathom level, in the bottom of Morgan's winze. We have cleared the shallow adit east of the old shaft to the present end; the lode is from 3 to 4 ft. wide, composed principally of compact blue slate, and for 4 or 5 fms. in length is a small leader of lead; and at this level the cross course has not shifted the lode a single inch.

HAWKMOOR.—I have much pleasure in reporting an improvement in the engine-shaft, the lode being 3 feet wide, carrying a leader of ore 2 feet big, and worth about 30*l.* per fathom. In the 20 fm. level west, there is no material alteration; the lode is 3 feet wide, and will yield from 4 to 5 tons of ore per fm. We are now preparing another parcel of ores for the market.

HEIGNSTON DOWN CONSOLS.—The men in the 45 fm. level have been engaged dividing and casing shaft from the 35 to the 45 fm. level, in order to bring the machine kibble to the last-mentioned level, to draw the stuff, instead of drawing it with tackle to the 35; consequently, little has been done in this end during the past week. I am glad, however to say, some good stones of mundic and copper have been broken from the present end this morning. The lode in the 35 fm. level has also improved in the last week, producing some excellent gossan, with tin, and a little copper ore. In the 20 fm. level, west of Hitchins's shaft, the ground is eased for driving, and water oozing therefrom indicates an improvement ere long.

HOLMBUSH.—The lode in the 120 fm. level south is 6 ft. wide, composed of soft quartz and stones of lead. The ground in the 120 cross-cut south, towards the flap-jack lode, is very favourable. The lode in the 110 fm. level south is 3 ft. wide, producing 3 cwts. of lead per fm. The flap-jack lode, in the 100 fm. level, east of the great cross-course, is 5 ft. wide (from wall to wall), underlying north 2½ ft. in a fm, all of which will produce 8 tons of copper ore per fm.; we hope it will be more lasting than the former bunch, and from the general character we believe it will.

KIRKCUDBRIGHTSHIRE.—The lode in the 62 end, west of Stewart's shaft, is 7 ft. wide, 4 ft. of which (on the north side) has fine stones of ore through it and yielding 15 cwts. of ore per fm.; the lode in the 62 end east is 1 ft. wide, and worth 5 cwts. of lead to the fm. The lode in the 50 end, west of Keith's, is 2 ft. wide, and worth 6 cwts. of lead per fm.; and in the 40 end west the lode is 3 ft. wide, yielding 6 cwts. of lead to the fm. On the whole, the levels are looking well.

LAMHEROOE WHEAL MARIA.—The engine-shaft has been driven 2½ fathoms north, but owing to the influx of water gushing from the end, we have not driven so far as we anticipated at our last report. We shall have to extend our driving 9 ft. before we expect to intersect the lode. At Davey's shaft, we commenced this morning to drive north in the 80 fm. level. Both shafts being down at their respective depths, I should deem it advisable to drive north and south with all possible speed, and shall only have to make an addition of six men to carry this out, our object being to open on the lodes without delay, the expense of the engine being neither increased or diminished, whether we employ six men or twenty. Saturday being the day for setting, a public survey will be held, and I will forward the prices the following week.

LEWIS.—The lode in the engine-shaft, sinking below the 70 fm. level, is 2 ft. wide, producing some good stones of tin, and very promising; the lode in the 70 east is 3 ft. wide, worth 6*l.* per fm.; the lode in the 70, east of ladder road winze, on south branch, is worth 3*l.* 10*s.* per fm.; the lode in the 70, east from sump shaft, on south branch, if yielding some good work for tin, driving at 11*s.* tribute. The 60, east from sump-shaft, on south branch, is worth 12*l.* per fm. The lode in the 60 east, on Cock's branch, is 1 ft. wide, producing some tin, but not to value. In the 60 south the ground is more favourable than when last reported. The 50, east from sump-shaft, on south branch, is opening moderate tribute ground; the 50, east from copper-ore shaft, on Cock's branch, is worth 5*l.* 10*s.* per fm.; the south lode in the 50, east from Oak shaft, is 1 ft. wide, yielding some good stones of tin. The lode in the 40, east of Braid's shaft, is 1 ft. wide, unproductive; the lode in the 40, east of copper ore shaft, on Cock's branch, is worth 4*l.* 10*s.* per fm.; the lode in the 40, west of copper ore shaft, on Cock's branch, is worth 5*l.* per fm.; all other places are much the same as when last reported.

LOSTWITHIEL CONSOLS.—The ground has been gradually easing through this month, and the water rather increasing in the end. The lode was wrung up, and very poor, but it is now better than it has ever been. It is 11 inches wide, and containing rich stones of ore, more promising than we have seen it; but we cannot keep the water down without a little extra lift, at the cost of about 30*l.*, or less

MENDIP HILLS.—I have no particular change to report to you in the appearance of any part of your property, the beds of stuff which we are now laying open at Charterhouse being about 17 ft. thick, yielding a fair quantity of slags and slimes. Since my last report we have commenced washing at Blackmoor dressing-floors, where, I am glad to say, we find both slags and slimes to be very good, but for want of water we are obliged to suspend operations until we have a few more showers of rain.

SOUTH WALES MINES.—At Bodcall we are now putting in a lobby to drive west on the course of the south lode. The Dalwin south lode, in the deep adit, east of the Rhydnet River, is improved since my last report, and will at this time yield, on an average, half a ton of copper ore per fm.; also some good stones of lead; in fact, the lode is looking very promising indeed, but at present is worth more for copper than lead, and for the last 4 fms. in driving the back will more than pay for stoping for copper ore. The ore in the back of the level is of a very soft rich black, and in the bottom is of a more strong yellow, in ground that will stope at 30*s.* per fm.; in fact, I never saw a more promising lode, and strata about it so near the surface; in the course of a few days we shall commence cutting the plat, in order to sink a winze below the adit, and we will get up the smith's shop as soon as possible, so that we may begin to dress the work.

SOUTH WHEAL TRELAWNY.—The ground in the engine-shaft, sinking below the 40 fm. level, is still favourable, being a dark blue killas stratum, and the progress we are making to reach the 50 fm. level, previous to cross-cutting, we consider satisfactory, taking the depth and size of the shaft into consideration. The quantity of water is just as usual.

TAMAR SILVER-LEAD.—In the engine-shaft there has been no lode taken down since last reported on. In the 190 fm. level we have holed the winze in the back, and commenced driving the end south. In the 175 end the lode is 3½ ft. wide, interspersed with ore—good stamps work. In the 160 end the lode is disordered by cross branches. In the 145 end the lode is 3 ft. wide, producing work of a moderate quality. In the 135 end the lode is 1 ft. wide, yielding work of a promising description. At the north mine, in the 80 fm. level, north of the shaft, the lode is 1 ft. wide—good stamps work. In the 70 fm. level, driving south, the lode is 18 in. wide, 1 ft. of which is good saving work; in the rise in the back of this level the lode is 4 ft. wide, orey throughout, and opening ground that will work at a moderate tribute. Our last parcel of ores (September), weighing 102 tons 18 cwts. 1 qr., was sold to T. Somers, Esq., at 20*l.* 11*s.* 6*d.*

TINCROFT.—In Palmer's shaft, sinking below the 90 fm. level, on East Pool lode, the lode is 4 ft. wide, with stones of copper ore. In the 90 fm. level west, the lode is 2½ ft. wide, worth 9*l.* per fm. for copper. In the 80 fathom level west, the lode is 4 feet wide, worth 8*l.* per fm. for copper. The 70 west is worth 8*l.* per fm. The lode in the 36 fm. level, driving west of Stainsby's, is 2 ft. wide, worth 6*l.* per fathom for copper. In the 24 fm. level west, the lode is 1 ft. wide, with spots of ore; the winze in the bottom of this level is worth 30*l.* per fm. for copper. At North Tincroft, the engine-shaft sinking below the 100 fm. level, the lode is 4 ft. wide, worth 18*l.* per fm. for copper. In the 108 fm. level east the lode is 4 ft. wide, worth 10*l.* per fm. for copper. The 100 west is worth 11*l.* per fathom for copper. In the 90 fm. level, east of Willoughby's shaft, the lode is 3 ft. wide, worth 10*l.* per fathom for copper. In the 90 fm. level, west of engine-shaft, the lode is 4 feet wide, worth 12*l.* per fm. for copper. On Higharrow lode, in the 152 fm. level, east of Martin's east shaft, the lode is 5 ft. wide, worth 17*l.* per fm. for tin; the stopes in the back of this level, east and west of the shaft, are worth 20*l.* per fathom for tin. In the 152, east of the shaft, the lode is worth 16*l.* per fm. for tin. In the west end of the same level the lode is worth 10*l.* per fm. for tin; the stopes in the back of this level, east and west of the shaft, are worth 24*l.* per fm. for tin. Chappie's lode, in the 110, driving east from Cook's Kitchen, is 4 ft. wide, worth 8*l.* per fathom for tin and copper. The lode in the 100, east of Downright shaft, is 3 ft. wide, worth 6*l.* per fathom for tin and copper; the same level west is worth 16*l.* per fm. for copper. The lode in the 90 west is 6 ft. wide, worth 18*l.* per fm. for tin and copper. The 80 west is worth 8*l.* per fm. for copper.

TRELEIGH CONSOLS.—The 125 cross-cut, at Garden's, is driving in the country towards the lode. In the 90, west of ditto, the lode is 2 ft. wide, with stones of ore, and is looking kindly. In the 80, west of ditto, the lode is 2 ft. wide, and worth 20*l.* per fm.; in the 80, east of ditto, the lode is 2½ ft. wide, and worth 5*l.* per fm. In the winze below the 70 the lode is 18 in. wide, with good stones of ore. In the winze below the 80 the lode is 20 in. wide, with stones of ore. In the 60, west of Garden's, the lode is 1 ft. wide, with stones of ore. At Wheal Parent the 40 cross-cut, north of the engine-shaft, is driving in the country towards the middle lode. In the 30, east of ditto, the lode is 2½ ft. wide, and worth 8*l.* per fm.; in the 30, west of ditto, the lode is 18 in. wide, with stones of ore. In the 20, west of ditto, the lode is 15 in. wide, with stones of ore, and is looking kindly; in the 20, east of ditto, the lode is 1 ft. wide—poor. The middle lode, at Nicholson's shaft, below the adit, is suspended on account of the water; in the adit, east of ditto, the lode is 18 in. wide, with good stones of ore, and is looking kindly.

TYWARNHAYLE.—Gardiner's shaft is down 12 fms. below the 90 fm. level; we shall sink about 7 ft. more—say, complete to the 100 fm. level—by the end of November. The 90 fm. level east is driven 17 fms. east of shaft by the side of the lode, which is large and orey; the 90 fm. level west turns out about 2 tons per fm.—driven about 27 fms. west of shaft. The 80 fm. level east has been disordered, but is now looking much more kindly. The 70 fm. level east is a very kindly lode, but not rich—say, 1½ ton per fm. The 60 has not been driven until this month. The 80, east of James's, is driven 5½ fms. through good ore ground; lode large, producing 4 tons per fm., now disordered by a sparry branch; the 80, west of James's, is driven 18 fms. through a good course of ore, holed to a winze now driving west of it; lode still 4 ft. wide, but coarser, turning out 3 tons per fm. In the 80, east of No. 2 winze, the lode is large, yielding about 2 tons per fm. The 80, east of No. 3 winze, is yielding about the same. The 70 west has been driven 5 fms. from Tredennick's winze through a good course of ore; lode in the end 4 ft. wide, producing 3½ tons per fm.; the 70, east of cross-cut, on Taylor's lode, is driven 7 fms. towards James's shaft through good ore ground—lode now turning out 2 tons per fm.; the lode is cut in a cross-cut about 7 fms. before the end, we have seen about 3 ft., which is looking very well—say, 3 tons per fm.; in the cross-cut, driving in the 60, to cut Taylor's lode, we expect to drive 5 fms., 3 fms. of which are driven. In the 64, at South Towan, the south branch has fallen in with the main lode, and has produced a very favourable change in it; there is a very pretty bunch of ore, of very good quality, in the bottom part of the end, and extending 18 in. upwards—this looks as if were going over the back of a bunch. We have forked the water 2 or 3 fms. below the 70 fm. level, and hope, in the course of about three weeks, to reach the 94 fm. level.—*Nancekuke—Wheal Sparrow:* The lode in the 40 fm. level has, for the last three months, been small and poor, but it is now 3 ft. big, and is very promising, with some fine stones of ore in it.

WEST WHEAL JEWEL.—The 85 fathom level, west of Williams's cross-course, on Wheal Jewel lode, is worth 4*l.* per fm. The 70 fm. level west, on the same lode, is unproductive. The 47 fm. level, east of Williams's cross-course, on the same lode, is worth 5*l.* per fm. The deep adit, west of Williams's cross-course, on the same lode, is unproductive. The deep adit, west of Tregoning's shaft, on Tolcarne tin lode, is unproductive. The 12 fm. level, west of Tregoning's shaft, is unproductive. The stopes in the back of the 12 fm. level, west of Pryor's winze, on Tolcarne tin lode, are worth 12*l.* per fm.; in the stopes east of this winze the lode is worth 11*l.* per fm. In the stopes in the bottom of the 12 fm. level, east of Tregoning's shaft, on ditto, the lode is worth 16*l.* per fm.; in the stopes in the bottom of level, at Tregoning's winze, the lode is worth 20*l.* per fathom. These stopes are working on tribute.

WILLIAM AND MARY WORTH.—It is highly gratifying to be enabled to report the progressive improvement we are making in the returns of ore, and of the favourable prospect for a continuance of raising a fair quantity for the next sampling, which strongly establishes my former statement of the probability that this ground, to the west of Highbarrow shaft, would prove highly productive on being effectually developed; and it was on the strength of this opinion, founded on practical experience, that I had a shaft cleared, timbered, and a footway put in, for the purpose of ventilation, and to have an easy access to the western part of the mine, which comes down to the breast of the whole, or unexplored ground, west of the above-mentioned shaft (it should be borne in mind the ground to the east of this shaft is worked away). There is now before us this piece of ground for nearly 200 fms. in length to the back of the adit level. The two parcels of silver ore, for August and September months, realised 119*l.* 16*s.* 11*d.*

WHEAL BAWDEN.—The main lode in the adit has not been reached, and from where the shoad pits were put down on the back of the lode, as pointed out by Mr. Tregellas and the men, it is probable that there are some fathoms to drive to intersect it; there is one pit only now open near the western boundary of the sett; the appearances of the lode in this pit are such as to warrant that there is something good at no great depth below, being full 3 ft. wide, principally gossan of a rich nature, and is altogether as fine a back as can be seen. We have employed two men this week on the lode, discovered a few fathoms in from the commencement of the adit, and have opened thereon upwards of 2 fms.; the lode is small, but improved in appearance, being 9*d.* ft. wide, containing gossan and spar, with good specimens of lead, and is, on the whole, a very promising lode; the ground is as easy for exploring as could be wished, the present price for driving being 10*s.* per fathom for 10 fms.

WHEAL BENNY—We have forked the water at Ford's shaft, and have put two men to drive west at the 30 fm. level, and set 2 fms. at 5*l.* 10*s.* per fm.—takers to pay for driving, filling, landing, wheeling, and all cost incurred, out of the price above stated. My object for extending this level is to open a few fathoms west to enable us to get under that part of the lode which held out such promising appearances on surface. The winze is sunk 9 fms. below the adit, and intend going 3 fms. deeper before we drive to intersect the Benny lode, when we shall get under the great cross-course, which will take us another month to accomplish. I have a very high opinion of the Benny lode.

WHEAL PENHALE.—In reporting of this mine, I can notice no particular change in any of the tutwork departments, not having broken down any lodes in the ends for the week, but shall do so early in the ensuing one, when I expect to witness very rich piles of work adorning the dressing-floors. The tribute pitches are yielding their usual quantities of work, both in lead and copper. On Thursday week, our lead and copper ores were sold to the following companies—viz.: Lead ores, 18 tons, to Messrs. Edward Pontefex and Wood, at 10*l.* 0*s.* 0*d.* per ton; and the copper ores, 53 tons, to Messrs. Sims, Willyams, and Co., at 6*l.* 16*s.* 6*d.* per ton. I hope, from present prospects, to have to notify our next sale much larger than the now past one, which there will be no difficulty in doing should they continue as good as they are at present looking.

WHEAL VINCENT.—We have erected our engine on the south lode in course for working. We have also let down the water by the shallow adit to the shaft, and have again resumed stoping on the lode. We have taken down part of the lode at No. 3 shaft to the western extremity of the sett; I am happy to state it produces splendid work indeed, and has every appearance of continuing. The ground in the cross-cut, driving to cut the north lode, still continues favourable for driving, and our two lifts of pumps keep the water at the rate of about four strokes a minute with the greatest ease.

WHEAL TRELAWNY.—In the 82 end, north of Phillips's shaft, the lode is 3 ft. wide, worth 7*l.* per fathom; in the south end, in this level, the lode is 3 ft. wide, worth 5*l.* per fm. In the 72 end north the lode is 3 ft. wide, worth 7*l.* per fm.; in the south end, in this level, the lode is 2½ ft. wide, worth 7*l.* per fm. In the 62 end north the

lode is 4 ft. wide, worth 9*l.* per fm.; in the north winze, north of this shaft, the lode is 3 ft. wide, worth 12*l.* per fm.; in the south winze the lode is 3 ft. wide, worth 13*l.* per fm. Treloarny's shaft continues in favourable ground, and is now down 9 fms. under the 72 fm. level. In the 72 end north the lode is 3½ ft. wide, worth 8*l.* per fm.; in the south end, in this level, the lode is 3 ft. wide, worth 11*l.* per fm. In the 52 end north the lode is 3½ ft. wide, worth 6*l.* per fm. In the winze sinking under the 42, north of the shaft, the lode is 2 ft. wide, worth 9*l.* per fm. At the north mine, in the 55 end, north of Trehane, the lode is still disordered, but we expect an alteration for the better *every* day, for the reason stated last week. In the 50 end, south of Smith's shaft, the lode is 3½ ft. wide, worth 7*l.* per fm. In the 40 end, north of ditto, the lode is 1 ft. wide, worth 5*l.* per fm. In the winze sinking under the 30, north of the shaft, the lode is about 1 ft. wide, worth 4*l.* per fm. The stopes throughout the mine continue to produce good work. We sampled, on the 18th inst., 108 tons (computed) of silver-lead ores, and weighed off the previous month's ores, 108 tons 12 cwts. 1 qr.

FOREIGN MINES.

BOLANOS MINES.—*Report, dated Mina del Bote, Sept.* 1.

EL BOTE MINE.—In sending you the mining report of this negociacion for last month, I have the satisfaction of being able to inform you that our progress in driving Taylor's cross-cut has greatly improved upon that of last month. Six and a quarter varas have been driven during the month, and there remains to date, according to measurement, about 3 varas more to be driven to cut the San Elijio lode, and which I hope to have completed in the course of two or three weeks, and trust, by the end of the month, to be able to say something about the vein, which I am anxious to see cut at this depth. The balance-bob was connected to the engine on the 21st. The engine works much better since the bob has been erected, and there has also been a considerable saving in the fuel. The water has not increased during the month, being about 6½ strokes per minute.

SAN FERNANDO.—On the 13th, I commenced driving Compania level west, with a view to communicate with Plan No. 2 west, where the vein is in fruits, and in which I wish to open a plan below the level, as soon as the communication is made. At the beginning of the month, I commenced opening a plan in the bottom of this level, west from Compania cross-cut, but the metallic part of the vein is small, disordered, and poor, and consequently gives but few ores. In Plan No. 1 east, on the 15th, we came upon a layer of quortoneria, of very poor ores, which continued to the end of the month, and which has caused a great falling off in the carga; and I was almost afraid that the vein had again turned into barra; but the carga taken out this week has again improved, although it is not quite so abundant as it was in the beginning of the month. In plan No. 2 east, the vein altogether is nearly 6 varas in width, 2 varas of which, towards the south wall, are in tolerably good azogues; the other part is very much disordered, and mixed with slate, and yields but little carga. In the winze, in Plan No. 3 east, we reached to water on the 9th, about 6 varas below the bottom of Compania level; and, from the above date to the end of the month, we have driven east from the bottom of the winze, and the end of the level is now nearly under the middle of Plan No. 4.

On the 27th I again began to sink a winze in the end of the level, but am sorry to say that, after sinking about 1½ vara, we again came to water. My intention is now to drive east in the water level, and to follow down the water as it lowers, so as ultimately to effect a communication with the level to be driven from Taylor's cross-cut. The vein at this point is very much disordered and poor, and at present gives no carga. The western part of the plan continues much the same as when last reported, in azogues of low ley. In Poso de Providencia there has been little or no alteration during the month; the branch of good ore, which is about ½ vara wide, still continues, and the carga extracted from this labor, although small in quantity, is of good ley. The rise of San Antonio I have communicated with the Concordia level, and we are at present raising some tolerably good ore from this point. The extraction of carga from the mine during the month was 1401 cargas grueso, but from the present prospects of the labores, I fear we shall fall short of the above quantity in the present month.

Extract from a Letter from Mr. Birkbeck, dated Sept. 3.

I have the honour to acknowledge the receipt of your favour of the 29th June, and likewise, by the same post, of the missing dispatch of 30th May.

CELESTINA continues the same in every respect as at the date of my last report, and is still leaving a small profit, I omitted to mention in my last, that I was examining a vein which had been cut and overlooked in a cross-cut to the south, driven at the level of Providencia, in Mr. Penny's time. I have found some good pintas, but nothing promising.

EL BOTE MINE.—I beg to refer you to the chief miner's report. In consequence of the scarcity of wood, mentioned in my last, I have found it necessary to offer as high as 10 rials per carga, and have nearly concluded a contract at that price up to a few thousand cargas, after which it will be paid at 9 rials.

Results of the Month.

Celestina Mine (profit)				$ 1080	1	5
La Granga hacienda, ditto				126	5	2
El Bote Mine (loss)				167	2	7
Net profit				$ 1039	4	0

IMPERIAL BRAZILIAN MINES.—*Bananal, August* 23.—I beg to advise you that myself, Capt. B. Brokenshar, Mr. W. Hitchins, and John Crase, arrived here on the 13th inst. I immediately commenced the transfer of the company's property from Mr. Henwood to myself, which business we completed on Saturday last. Inventories of every article have been taken, and your late chief commissioner, who left here on Sunday morning last (August 19), takes with him two copies, one for himself, one for your board, and the third remains in my hands, in conformity with your instructions. I very much regret to state that the greater part of the materials, &c., handed over to me, is almost worthless, a few things only being fit for use—I will write you more fully on this subject in my future communications. Being here only a few days, I have not yet had time to fully examine your mines; but as far as I can now judge, the capabilities of prosecuting this mine to a much greater depth are great. I have little or no doubt of being able to carry out the same views I entertained when I waited on you in London, with regard to the prosecutions of the mine.

By the captain's report, you will find that the water has not been drained from Thomas's shaft for some considerable time—consequently, the vein in the bottom has not been operated on; and our return of gold for the last 10 days is very little. I fear this place must remain idle until an alteration in the machinery can be effected. It will require some little time before I can decide on future proceedings; but I beg to assure you that every exertion shall be used to effect the speedy prosecution of your mines. The Santa Rita shall have my early attention; but at present the principal object for consideration is the effectual prosecution of the mines now at work. At Gongo Soco, I have hopes of being able to turn this part of your property to good account, as it is an undeniable fact that millions of tons of auriferous jacotinga yet remain in the mine.

Gold Report.

Gongo—From 3d to 22d August	*Lbs.*	6	5	11	0
Bananal—From 3d to 22d August	*Lbs.*	2	11	18	0
Total from 1st July—Gongo	*Lbs.*	22	2	13	0
" " Bananal		13	5	11	0
Making together	*Lbs.*	35	8	4	0

109 lbs. 7 oz. 4 dwts. 8 grs. of gold dust (value 4800*l.*) has arrived per *Penguin* packet.

LINARES MINES.—I mentioned in my last that we were about attaching a side lift of 4-in. pumps, which we completed on Tuesday evening; and our progress since has been satisfactory. We are at present about 4 fms. under the first level—the water when we started the engine being about 3 ft. under the level; but we hope to make better progress as we deepen further, considering that more rubbish will have accumulated in the lower part of the workings. In one spot, now in course of unwatering, the vein appears to have been worked away for several fms. in length for a width of 13 ft. The engine has, for some days, worked 16 strokes a minute 8 ft. 3 in. in cylinder, and 6 ft. 6 in. in the shaft; the full stroke, when not working so rapidly, is 9 ft. in the cylinder, and 7 ft. in the shaft. As this rate of working necessarily involves a consumption of fuel, as near as I can estimate at present costing 21*s.* to 22*s.* per day, we are losing no time in getting our other boiler in its place, and shall case up the cylinder, build the boiler-house, &c., and thereby work more economically.

NATIONAL BRAZILIAN MINES.—*Cocaes Mine, August* 22.

At Hamilton's stope we are proceeding, as usual, diagonally westward, on the course of the veins, and having got pretty well clear of the cross-courses previously alluded to, an improvement in the produce may very shortly be looked for. As yet, however, very little change has been noted in the appearance of the ground, but the layer has become smaller since last reported, which is rather a favourable indication, for when it was first discovered in the eastern end it was not more than about 1 ft. in thickness, and very rich; but as soon as the cross-courses were met with, it opened about 10 ft. wide, and became less productive.

Chiba Mine, Aug. 16.—The lode at Le Page's stopes has a most promising appearance, similar to that part of it which contained the gold at the Caebra Cunha stopes; and from our having obtained so many promising samples from it, I yet entertain great hopes of meeting with some very good ground in opening westward at these stopes.

Cocaes produce from the 4th to 13th August	*Mrs.*	7	1	2	71	
" " 14th to 23d ditto	£	6	0	11	13	2 1 10

ST. JOHN DEL REY MINES.—*Morro Velho, August* 8.—Produce for July 22,339 oitavas, equal to 214·61 lbs. troy, being, according to the returns of the reduction department, from 5760 tons of ore, and yielding 3·87 oits. per ton; but these returns, from the reduction department, are, I apprehend, still very erroneous. I have reason to believe that the number of tons sent to the stamps has been as much underrated latterly as it had evidently been overrated previously; and, though I have taken great pains to have these accounts properly taken, and appointed an overseer with the sole charge of watching the waggons as they were trammed to the stamps, in order to see that they were properly loaded, it is evident to me that we have not succeeded in obtaining a correct account. According to my own estimate, we should add 200 tons to the quantity said to be sent to the stamps, making the total 5960 tons, and reducing the standard from 3·87 to 3·75 oits. per ton.

The supply of stone from the mine continues without much alteration, having been obliged to bring in upwards of 400 tons during the month from the refuse heap; towards the latter end of the month we had been enabled, for a few days, to dispense with this source of supply, but have since been forced to resume it.

Cost for July	Rs. 45,872 183, at 25½	£	4794	11	6
Produce	22,339 oitavas				
7 per cent. less duties	1,563				
	20,776 oitavas, at 7 7½		7899	4	2
Profit		£	3104	12	8

Though the produce, and, consequently, the profit of July is somewhat better than that of June, still I have been grieved and disappointed at finding so little diminution in the cost; but, here again we suffer by the chain, of which I have latterly had to complain so frequently; for, in consequence of the terror occasioned by the continued breaking of the former chain, the moment the 600 fathoms, per *Comet*, arrived, it was deemed prudent to take the whole of it into use without delay, charging one-half, or Rs. 2610 in July, the other half in the current month of August, whereas, in the common course of things, 600 fathoms ought to have been spread over six months.

Besides the cost of chain	Rs.	2600
July had to bear Carrefro's account for six months		1035
Parties between Rio and Falmouth	Rs. 1383	
Ditto, my gratuity, Mr. Ellis, J. Bunt, and Dalley	907	2290
Iron plates for blacks' drying house		162
Total	Rs.	6087

Showing, in these few items, a list of extraordinaries, amounting to upwards of Rs. 6000; of these, chain will still figure in August for an equal amount as in July; but, after the current month, I hope to see the monthly cost reduced, at all events to Rs. 40,000.

Surface Works.—This reduction in the monthly cost (after August) will be materially assisted by the progress which I am at length enabled to advise has been made towards completion of these long pending and expensive works—viz.:—1. The third Clystaes tunnel will be finished this week—this has been a most costly undertaking.—2. The steam-engine will, I expect, get to work in a week.—3. The new roofing of the iron stamps will be completed, I hope, in a fortnight.—4. The house near the new hospital, for the residence of the medical officer, is almost finished—I expect he will move into it before the end of the month.—5. The store, though not so nearly finished, is, nevertheless, so far advanced, that the further outlay for timber, and other materials, will be comparatively small.

Purchase of Boa Vista Estate.—You will see by the cost-sheet that I have paid Rs. 300 for purchase of a small property, belonging to St. Jose Vaz, containing about 100 acres of excellent pasture, and immediately adjoining (or rather running into) our own territory. This acquisition I have been induced to make solely for the sake of the pasture, and because we have been hitherto so miserably off in this repect, at least at any reasonable distance from the establishment, that each succeeding year has witnessed the loss of oxen and mules, that perished, either from actual starvation, or by tumbling down precipeces, in their wild endeavours to find something to eat.

Estimates for Working the Mines.—In my letter of the 8th June, I informed you that Capt. Treloar was engaged in revising and amending his former estimates, as to the best manner of working the mines, with reference to the force employed therein. The revised estimates having been at length completed, I have now the pleasure to enclose them to you, doubting not that you will find them well deserving your attentive consideration. To two points only I beg to direct your particular notice—viz.:—1. That, though he assumes 90 fms. as the furthest depth to which the Bahu sump may be sunk, grounding all his calculations on this assumption, yet he himself says it is as likely to go twice or three times that depth, for so far from exhibiting any signs of decay (which would be the case were it approaching its termination) it is actually still improving as we go down.—2. That he leaves the newly discovered lode at the West Quebra Panella entirely out of his calculations; and yet I think there is a strong probability that this will prove a most important addition to the resources of Morro Velho, more especially if Capt. Treloar's anticipations (as explained in paragraph 25 of his mine report) be realised—viz.: That the great bar of killas, which had appeared to terminate the lode at what was called the champion ground, and which was afterwards found to separate the East from the West Quebra Panella, is now about to disappear, leaving no line of demarcation between the two lodes, which will, therefore, form but one continuous lode.

North Branch Lode near the Gut.—From what was stated herein in my last letter, as well as the more detailed particulars you will now receive in Capt. Treloar's mine report, paragraphs 14 and 22, you will be enabled to form an opinion of the importance of this additional source of supply.

August 18.—Gold extracted to date 7422 oits., from 436 cubic feet of sand (result of 10 days' stamping), 17·34 oits. per cubic foot. Stamps working 17 days, average 93·96 heads.

The supply of stone exhibits but little alteration as yet, but I am glad to say that, thanks to the diminution of sickness on the one hand, and to the increase of the number of our native borers during the last few days, on the other, we begin to break more stone, so that in a day or two I hope we may again be enabled to stop bringing in from the refuse heap.

Steam-Engine.—I have to inform you that this engine, having been at length finished, went to work on the 10th inst., and, I am happy to add, with complete success. You are aware that my principal object in this erection was, with the aid of a fan bellows (which has been also prepared to act in connection therewith), to supply a more effectual blast to the forges in the great smithy, than they had heretofore obtained from water power acting on common bellows, and at the same time to leave the water at full liberty for the use of the Susannah stamps, where we had heretofore very often been obliged to submit to serious stoppages, in consequence of the water being required for the use of the smithy. In all this our object is thoroughly attained, for though we have now incessed the number of forges to 12, we have not only ample blast for these 12, but for as many more if required, and I am assured by the smiths, that they will now be enabled to do one-half more work than formerly. In fact, of the 8-horse power which the engine could give us, we are using at present only 2 or 2½; and, by-and-bye, I hope to be enabled to apply the surplus power to other useful objects. The fuel is composed in part of small logs of wood, fit for nothing but firing, but principally of a mixture of sawdust, refuse charcoal, and carpenters' chips, and I therefore see no reason whatever for the apprehensions which had been entertained by some parties on this score. Altogether, it does great credit to the ability and perseverance of Captain Goyen, under whose sole management it has been erected and set to work.

Tunnels for the Christaes Water.—After upwards of 12 months of unremitting labour and expense, this undertaking is at length completed, and I have the satisfaction to inform you that the water has been this day turned through the third tunnel. Of the importance of these three tunnels to the future welfare, perhaps to the very existence of this establishment, you are already fully aware. I shall, therefore, only add, that I feel greatly indebted to Capt. Treloar for the untiring zeal and energy with which he has superintended and directed the execution of these works.

Chains.—One of our English smiths is now constantly employed in making new out of the old discarded chain. When the various sample chains, alluded to in your letter of 4th June, come out, this new chain of Morro Velho manufacture shall be tried in competition with them—the result must guide us as to further operations in this way.

Brazilian Borers.—We have latterly had as many as 50 or 51 Brazilians in the mine department, and I have reason to believe that the further increase of their numbers is prevented solely by the impossibility of the new comers finding any place to lodge within a reasonable distance of the mine. Seeing the immense difficulty we experience in adding to our force of hired blacks, it becomes additionally prudent to encourage, as far as possible, the influx of Brazilian miners; and I have, therefore, determined forthwith to commence the erection of small houses for their reception. With this view I have already had the ground cleared and marked out for one long range of building, to be divided into 12 apartments, which may probably accommodate 20 workmen; and, if we succeed in obtaining such an accession of mining force, their labour will soon repay the expense of the building.

UNITED MEXICAN MINES.—*Guanaxuato, September* 6.

Mine of Rayas and Others.—The enclosed report of Mr. Parkman supplies full particulars in respect of operations during the last past month, and by it will be observed that, with regard to Rayas, the only novelty besides a scarcity of work-people is a decided improvement to the south-east in the end of Santo Toribio, and of the opening of a pit in the good ore laid bare at an earlier stage of that end, which the latter, fortunately, continues to develope its advancing ground. Two small lots of rich ore from the old pillars of San Cayetano, the latter being previously strengthened by masonry work, were knocked down and sold last month, realising together $6758, at a comparatively trifling cost,

Aldana.—The water in the shaft having become troublesome, owing to heavy rains, I have deemed it expedient to commence at once a reservoir on one side of the shaft, for the purpose of collecting the water, and by means make practicable the more expeditious reainking of the former, in order to cut the lode as soon as possible. The reservoir will be completed next week.

Promontorio.—Having had occasion recently to measure the interval relative ground between this mine and Rayas, I find that their respective most advanced workings towards each other are 79 varas apart horizontally, and 30 in depth, the former being so much higher than the latter—a space, however, in both respects, from whence large returns may be obtained—an idea singularly favoured by the recent and simultaneous improvement shown in the actual converging working of the two mines. The sale of buscones' ores this week reached $800 against $250 of the preceding week, and will turn the scale from loss to profit of about $150 on this week's operations. The ores having since continued good, and the workmen stimulated by so favourable a scale as the last, I have every reason to believe there will be yet larger returns, unless, indeed, the ores and present character of the lode give out.

Jesus Maria y José.—The sinking of the shaft is proceeding slowly but, at the same time, satisfactorily. A forge, &c., has been erected, and preparations are in progress for the erection of a horse-whim, timbering the shaft, &c., the latter being now about 16 varas in depth.

Remittances.—A representation has been recently directed to the general Government, through our Governor, with the object to establish at once a quarterly instead of, as heretofore, three-yearly conductas, simultaneously from Zacatecas and Guanaxuato, forming a junction at San Luis for Tampico; and, in the event of such arrangement being adopted, the first conducta will be despatched next month, and by it I shall forward from $30,000 to $40,000 for shipment, as usual, to the court.—J. N. SHOOLBRED.

The following is the report on the state of the workings in the mines of Rayas, Aldana, Promontorio, and Jesus Maria:—

MINE OF RAYAS.—*Frente de Santo Toribio.*—During the month this work has advanced 4·97 varas, and a gradual improvement has been observed in the vein. A pozo has been commenced in the past week, in the hope that the ore may become more abundant at greater depth.

Crucero de Santo Toribio.—This work in very hard rock has advanced 2·88 varas, without an improvement in the prospect, as to ore.

Santo Toribio Workings.—The contra cielos of Jesus and La Purisima still continue as the most productive points, but present no change worth mention. The heat and want of ventilation render the working arduous, and this difficulty will increase with the height. This evil may be remedied, by a communication with the workings of the Promontorio, which are higher up, and not far distant; this would be a benefit to both mines. In the pozo of Santo Toribio, since the rains have commenced, we have been obliged to abandon the bottom of the same, from the ingress of so large a quantity of water as to render it inexpedient to continue the work, from the want of men sufficient to carry the water to the reservoir of the pump. The pumps have, however, been sufficient to keep under that portion of the water for which they were originally intended, and will enable us to drain the pozo as soon as the rains shall cease; a part of the barmen have been, in the meantime, employed in a frente to the north-west, just above the water, called San Cricenzio, the ore of which has lately improved. Higher up, on the south side, the pozo of San Vicente is still giving a small quantity of good ore.

San Cayetano.—In some of the pillars, where the necessary preparations have been made, six barmen have been employed, producing a small quantity of good ore, and a larger portion of an ordinary class. The want of material for filling up, prevents this operation from being extended. The total of barmen is nominally 54, but this number is rarely made up, from the want of workmen. The ore remitted to haciendas in four weeks amounted to 2540 cargas.

Buscones.—There has been no change worthy of notice in those parts of the mine worked by buscones.

MINE OF ALDANA.—At the close of last month, although the water was very troublesome in the shaft, we had hopes of being able to continue sinking, but after two weeks of unavailing efforts, in which but 0·71 varas were sunk, we were obliged to suspend the work, and turn our attention to a plan for detaining the water, by forming a reservoir in the side of the shaft, at the depth of 50 varas, which is the point where the water comes in. This work is considerably advanced, and with every prospect of answering our purpose. In the meantime, the pozo of Santo Toribio, in the upper wall of the vein, has advanced 9·92 varas. This work is quite free from water, although 30 varas below the present bottom of the shaft.

MINE OF PROMONTORIO.—The level of Santa Catalino in this mine has advanced in the past month 5·41 varas, and is hard and poor. A pozo opened in this work has in the last week produced some very good ore. Another pozo, 20 varas more to the north-west, is also producing good ore; this last is called San Filiziano.

MINE OF JESUS MARIA.—Work has been continued in this mine, on a very reduced scale. The operations of the month have been principally collecting materials for the malacate and timber work of the shaft, and building a room for the smiths' forge, which is now wanted, as the rock in the shaft requires blasting. The few men employed in the shaft have sunk in four weeks 3½ varas.—S. P. PARKMAN.

LELANT CONSOLS.—At the late meeting of adventurers, held on the 19th inst., all parties were much pleased with proceeding at once to erect an engine, and fork the water on the rich tin lodes wrought in Wheal Margaret to within a few fathoms of Lelant Consols sett. It is confidently expected that this will prove, with comparate trifling outlay, a very productive and permanent tin mine. This sett being situated parallel to Wheal Reath, which profited above 100,000*l.*, Wheal Mary, and adjoining the favourite tin mine in Cornwall, Wheal Margaret, is in itself a pleasing feature to any mine agent who may examine this property. Most are of opinion it will, when cleared out to the bottom level become a paying mine at once.

ASTURIAN MINING COMPANY.

A meeting of shareholders in this company was held at the offices, Austin-friars, on Wednesday, the 24th instant.

FRANCIS WHISHAW, Esq., in the chair.

Mr. MOORE stated that, under date of the 9th inst., he had in his own name issued a circular calling the present meeting, though under sanction of the directors. The measures proposed for liquidation were:—

1. The affairs to be wound up in pursuance of the decree of the 26th June, ultimo.
2. The property to be advertised for sale on tender, at an upset price, to be fixed at a general meeting; and if that price be realised, either by a substantive offer from other parties, or by a conversion of stock into that of a new company, the present company to be dissolved.
3. The debts to be paid off by the call, and by realising the assets of the company.
4. On the completion of these operations, the legal dissolution of the company, in this country as well as in Spain, to be carried into effect.

But the proposal for forming a new company was not to be considered the act of the liquidators or directors. The board would still proceed with the liquidation, pursuant to the decree of the 26th June. The duty of the liquidators and directors, under the Spanish law, would be to sell the property. If this were done at the present time, he questioned by what means they could obtain a sufficient return for their capital. If the property was forced into the market, without the means of purchasing it in, speculators would probably come in at a low price, and reap the benefit of the shareholders' investment. He had, therefore, suggested, as the most feasible plan, that in order to secure a fair value, and at the same time to obtain the control of the property, a new company should be registered as a joint-stock company. By this company, he proposed a definite sum, sufficient to cover the present liabilities, shall be offered for the purchase of the property and assets of the Asturian Mining Company. A transfer to be made to the new company of the Asturian Mining Company's assets and property. The new company to undertake the payment of all liabilities affecting the Asturian Mining Company, and winding-up of its affairs; and to reserve to the shareholders of the Asturian Mining Company the alternative of accepting the proportion of capital, to be allocated upon the principle now submitted, in lieu of their shares in the value of the purchase, assigning their representation of such shares. The proposal was not so complicated as might be imagined. The last call of 2*l.* was made on the condition that it should be treated as a debt, to receive 5*l.* per cent. interest. He purposed to allocate to each Asturian shareholder, who paid 2*l.*, the sum of 5*l.*, giving him, in effect, a mortgage on the works, which, assuming the profits to be 10,000*l.* per annum, under proper management, would be paid off in eight years. In reconstructing the company, three classes of stock would be formed:—1. A preference stock, to represent amount of call now made, which will bear a preference interest, as a debt, of 5*l.* per cent. The principal of this, and other debts, to be paid off by the proceeds of a sinking fund, for which 10*l.* per cent. of the profits, and half the surplus profits, to be allocated.—2. A second-class stock, to represent the residue of the new capital.—3. A third-class stock, to represent the difference between the foregoing and the full amount of stock to be paid up in the Asturian Mining Company, to be called into activity when the first class is paid off, should the resolution of a general meeting so decide. His principal object in pressing this measure was to urge them to sustain their interest in the property, which was really such as the directors had represented. He had in his hand a letter from Mr. Scale, a director, who had been on the property, was a practical man, and largely interested in the iron trade; with their permission, he would read it to them.

Briton Ferry Iron-Works, near Neath, Glamorganshire, Oct. 20.

DEAR SIR,—Would that I could find the time to give you such a report of the Mieres district, and the works of the Asturian Mining Company, as they deserve; incessant occupation in my works here, and a bad illness, alone has prevented me. You *under-rate* the advantages in the *Mining Journal*, and over-rate the expense of the second blast-furnace. I am perfectly satisfied that bar-iron can be made at those works at less than 9*l.* per ton, and the selling price is open to all parties. I believe that bars will be made as cheap as in England, for the coal is very cheap and abundant. The ironstone cost will bear a comparison with the Staffordshire prices, and is very much less than the rich ores of Cornwall, Devonshire, and Lancashire, of which ores hundreds of thousands of tons are brought to Wales. I will find a man who shall go out and undertake to make the profit set down in your estimate, if you will give him the surplus for himself, or some handsome per centage. To break up the company is a most wanton act of folly that men were ever guilty of. You and the shareholders must, however, make up their minds to this—viz.: that without headship (one head, with as many counsellors as you please, but *no directors*) no iron-works can be made to pay. It has been proved over and over again in this country. I firmly believe that, if a joint-stock iron company, having a board of directors, consisting of Crawshay, Guest, Bailey, Thompson, Forster, the Bairds, the largest ironmakers in the world, was to be established, that company would fail. It is the system I condemn not the men—more zealous men I never met than my brother directors in the Asturian Company; but the machine, however good the parts are, will not work. If the large shareholders are so unwise as to throw away their shares, be it so; the parties who succeed them, and obtain possession of the works, will have the first establishment in Europe. As to waste of capital, I do not believe a word of it. Come and see my works, where 350,000*l.* has been laid out, and then every shareholder in the Asturian Company will give the directors credit for economy. HENRY SCALE.

He should consider it would be a bad economy to throw away such a property without making an effort to save it. Their stock might be taken at the rate of 21,000*l.*, exclusive of the plant and real property. If the company were reconstituted in Spain, the mines might be worked under a lease, with provisions, so that the shareholders should not be liable to further calls; all contractors and creditors to have their claim limited to a lien on the property, so that the shareholders would not be affected individually. There was no doubt whatever but that persons would be found who were willing to take a lease, if a better way could not be found to rescue them from their present difficulties. Another shareholder had made a proposition, which was somewhat similar to his. This project of the Count de Caussans could be hereafter taken into consideration; it would be unwise, at this present moment, to assent, or to dissent, from his proposition. They were not meeting as a company; he had requested their attention as shareholders, to discuss the necessity and propriety of forming a new company, without any reference to the acts of the old company. The call of 2*l.* per share was quite apart from the consideration of this question; that call rested on its own merits. They must realise funds, in order to meet their liabilities, and every administration had, without doubt, a right to call upon the proprietors to pay up such proportion of capital as they were individually liable to; in fact, it was only acting on the common principles of honesty; their power to enforce the call on the Spanish shareholders had not been taken away from them by the decree of the 26th June. Those who joined in the new investment would be able to preserve their property, and eventually repay themselves for the losses they had experienced; whilst those who did not wish to save their shares must abide by the loss. If the property was sold at the present time, under a forced sale, it would not realise one-fifth of its value.

The CHAIRMAN said, that Mr. Moore had called upon them to offer an exposition of his views. He did not think they were authorised to form a new company; if so, he thought the directors should have called the meeting.

Mr. WEBB said that, when he had entered the room, Mr. Moore had commenced speaking, or else he should have protested against the meeting; and, in his opinion, the two previous meetings that had been held were null and void. This was entirely a Spanish company, registered by deed in the courts of Spain, and approved of by the Government of that country. By reference to the 33d article of the deed, he found that neither Mr. Moore, or any other gentleman, had power to call a meeting of the company; that deed said it could only be done by authority of the chairman, or by a requisition of 30 shareholders. As this meeting had not been called by the chairman, he presumed that their consent had been withheld, and it was his intention to protest against everything that was done there.

Mr. MOORE explained that this was not a meeting of the company, but of shareholders, to consider his proposition, as the exigencies of the case required, if the property was to be saved, a combined and vigorous effort should at once be made.

The CHAIRMAN said, he concurred with Mr. Moore. They were competent to discuss any question concerning the company, though any resolution they might arrive at would not be considered in any way binding, or regarded as a resolution of the company.

Mr. MOORE then stated, he would proceed to read a resolution, to give effect to his proposition, which was couched in the following terms:—"Resolved—That the directors and liquidators proceed to obtain registration, pursuant to the project now submitted (see *Mining Journal*, October 20), reserving to the shareholders of the Asturian Mining Company individually the option of joining the proposed company, or of accepting their respective shares of the value fixed, as the consideration of a transfer of the property and assets, according to the terms of any proposal on the part of any such company that may be accepted by a general meeting of the Asturian Company."

A desultory conversation ensued, after which Mr. LOWDER proposed a resolution approving of Mr. Moore's plan, which was seconded by Dr. RIDING.

Previous to the motion being put from the chair, Mr. WEBB observed, that he would allow no resolution tantamount to the same being passed without moving an amendment. He questioned much the legality of the non-registered shareholders being liable; they should not have two blast-furnaces, but diminish their workings; and there was no doubt, in another year, they might be able to be cleared from their most pressing difficulties. For his part, he would give Mr. Moore no encouragement; he had heard that the bankers had accepted drafts from the directors as individuals—(Directors: No, no!).—Then he was misinformed. He should like to hear the plan of the Count de Caussans more *in extenso*.

Mr. MOORE said, they had taken the opinion of eminent counsel—Mr. Russell and Mr. Rolt, as well as Mr. Beales and Mr. Doria, by which it appears there is no distinction between registered and unregistered shareholders—every shareholder was liable. The drafts on the bankers had been accepted either by the chairman or the directors, but solely as acting for the company. There could be no question but that every shareholder was liable, at least to the amount of his stake in the company.

Mr. PRATT said that he had been some time out of England. He was very well satisfied with what Mr. Moore had done, and cordially approved of every

step he had taken. With regard to the calling of the meeting, it was done for the purpose of ascertaining the opinion of the general body; it was desirable to know what support Mr. Moore's proposition would receive. If a resolution was passed, they would be able to know whether a majority supported or opposed Mr. Moore's views; if that were rejected, another plan could be proposed. It was his wish that every shareholder should give his individual opinion.

Mr. GRADY said they were standing in the position of a Spanish corporate body, and an English unregistered company; he supposed the new company would be formed like a railway company.

Mr. MOORE observed that a new company would be formed under the Joint-Stock Companies' Act, the expense of which would be about 100*l.*

Mr. GRADY stated, in his mind he had no doubt that both registered and unregistered shareholders were liable, not only for the amount of their stock, but for something more as individuals. He did not wish to lose the little he had; he would rather pay something more to keep it. He wished to change an uncertainty for a certainty. They ought not to leave the directors liable, but, as honest men, come forward and pay their just debts.

The plan of the Count de Caussans was then mooted, but met with no response; in substance it was—1. That the Asturian Mining Company should be dissolved, pursuant to the decree of June last, and immediate proceedings taken for its liquidation.—2. In virtue of the paragraph of the same decree, the company immediately to be reconstructed, in conformity to the commercial code of Spain.—3. The capital of the new company to be 200,000*l.*, in 10,000 shares of 20*l.* each. This new company, after acknowledging the acts of the original company, as established by the Committee of Investigation, to agree to discharge the liabilities of the old company.—4. By means of the stipulation contained in article 3, the original company will transfer to the new company, and the latter will accept, all the property of the original company at a reduction of 60 per cent., or 6000 paid-up shares of 20*l.* of the new capital.—5. The original shareholders will have the right to subscribe in the proportion of 25 per cent. of the number of shares they already possess, for the residue of the shares to be issued by the new company.—6. The 4000 new shares of the new company to be issued in the following manner. Every subscription of 10*l.* will carry the right to *one* paid-up share of 20*l.*, and for new shares the sum of 5*l.* is to be paid down, and 5*l.* in three months after, and the share certificate (definitive title) will only be granted on receipt of the last payment. The second payment may be made in advance, when a discount of 5 per cent. will be allowed; in this case the share certificate will be granted at once.—7. The direction to be composed of three members, chosen by a majority of shareholders at a meeting convoked for that purpose. The directorship to continue for three years; after that time the directors can be re-elected.—8. The directors to be remunerated for their services at the rate of 5 per cent. on the net profits of the company.—9. After the reduction of 5 per cent. for the directors, the remaining 95 per cent. will be divided as follows: 5 per cent. to a reserved fund, and 90 to be distributed amongst the shareholders, in proportion to the number of shares held by each.

Mr. WEBB's amendment not having been seconded, the CHAIRMAN then put to the meeting the following resolution, moved by Mr. Lowder, and seconded by Dr. Riding, which was thus worded:—"At a meeting of shareholders in the Asturian Mining Company, it was resolved, that this meeting approves of the proposal brought forward by R. Moore, Esq., for winding up the affairs of the Asturian Mining Company, and for forming a new one, for a temporary purpose, and that the directors and liquidators be requested to convene a special general meeting at the earliest possible period, to determine upon such proposal."—This was carried unanimously.

Mr. MOORE moved a vote of thanks to Mr. Whishaw, for his able conduct in the chair, which was passed and suitably acknowledged, and the meeting separated.

TREGORDEN MINING COMPANY.

The usual bi-monthly meeting was held on the 15th inst., at Liskeard, when the following statement of accounts was presented:—Balance to end of June, 142*l.* 6s. 10d.; cost for July and August, 363*l.* 3s.=505*l.* 9s. 10d.—By call of 10s. per share, 112*l.*; lead ore sold the 5th September, 5 tons, at 28*l.* 14s. 6d., 143*l.* 12s. 6d.—showing balance against adventurers, 249*l.* 17s. 4d.—A call of 10s. per share was made.

The following report, from Capt. W. Bryant, was read to the meeting:—

Oct. 15.—The 20 fm. level is driven north from the engine-shaft 30 fms.; in the last 6 fms. the lode varies from 12 to 18 in. wide, the leader part being about 10 in., composed of spar, and carbonate of iron, intermixed with rich silver-lead ore—all saving work. In the present end we have a slide, which we suppose to be the same as that in the 12 fm. level north, immediately before we cut into a good leader of ore in that level The water in this end (20) is increasing, and likely to drain the ground from the 12 to this level. The 12 fm. level is driven 60 fms. from the engine-shaft, and 13 fms. north of Willcock's shaft; in the last 15 fms. driving we have orey ground that will leave a fair profit in stoping—the lode in the present end is worth 4*l.* per fm.—driving at 2*l.* per fm. Willcock's shaft is sunk 6 ft. below this level, in which the lode is 2½ ft. wide, worth 6*l.* per fm.—price of sinking 3*l.* per fm. Should the slide that we now have in the 20 be the same that we passed through a little to the south of this shaft, we may fairly calculate that the orey ground is lengthening in depth; and, if the ground under this shaft is drained as expected, by driving the 20 fm. level, we shall be able to sink this shaft with speed to that depth, and, no doubt, shall have a good lode at that depth, judging from the appearance of the same about this place, and further north, which contains a quantity of fine gossan on the backs, with carbonate of lead intermixed. The different stopes in the mine are still yielding rich lead, from which we shall be able to raise about 4½ tons per month; and, if the lode should prove good, north of the 20 fm. end, and Willcock's shaft, as expected, we shall soon increase this quantity, and bring the mine into a profitable state of working. Yesterday we sampled a parcel of very rich ore, computed 5 tons, dry weight, which will be sold on the 23d inst. In conclusion, I would say that the prospects, on the whole, are very encouraging.

EAST POOL MINING COMPANY.

A general meeting of shareholders was held on Tuesday, the 16th inst., when the following statement of accounts was presented, and a resolution passed for the application of a renewal of the sett, for 21 years, at 1-18th dues.—Labour cost for August and September, 720*l.* 15s. 5d.; merchant's bills, 187*l.* 17s. 2d.; dues, 19*l.* 17s. 7d.=928*l.* 10s. 2d.—Balance from last account, 177*l.* 17s. 3d.; ores sold, August 2, 451*l.* 6s. 1d.; tin sold, Oct. 13, 145*l.* 3s. 6d.; two months' water charge, 120*l.*—leaving balance of 194*l.* 13s. 4d.—The following report, from Capts. T. and E. Carthew, was read to the meeting:—

Oct. 16.—In the rise in the back of the 120 fm. level, the lode for the first 3 fms. was 3 ft. wide, worth 6*l.* per fm.—at present it contains stones of copper. In the 110 end, 10 fms. west of cross-course, the lode is 6 ft. wide, worth 8*l.* per fm. for tin. In the 100 end, west of cross-course, the lode for the last 3 fms. has been poor. In the 90 end, west of cross-course, the lode is 2 ft. wide, worth 8*l.* per fm.; in the winze, below the 90 fm. level, 10 fms. west of the 100 end, the lode is 3 ft. wide, worth 9*l.* per fm.; in the 90 fm. level driving west, and west of cross-course, on the north lode, the lode is small and poor. In the 43 fm. level, on Reeve's lode, driving east from East Wheal Crofty, the lode for the last 3 fms. has been worth 6*l.* per fm. In the 36 fm. level, driving east of cross-course, on the south lode, the lode is small, containing stones of copper. In the 100 cross-cut, driving south to cut the north Tincroft lode, the ground is favourable for driving—price 2*l.* 10s. per fm.; 55 fms. are driven, and we expect to cut the lode in driving 20 fms. farther. On the north lode the tributers have discovered a good branch of ore over the 16 fm. level, worth about 40*l.* per fm.—their take expires on the next setting day, the 2d November. From present appearances we judge this discovery will be of considerable advantage to the concern.

BOLANOS MINING COMPANY.—In our Journal of the 29th September we reported a meeting of this company, held on the 26th of th at month. On that day a resolution was passed for raising new capital, payable by instalments—42,000*l.* was the sum proposed to be raised; it was anticipated, if half that amount could be obtained, it would be amply sufficient to develope the mine of El Bote, so that profits could be made. Apparently the directors have not been successful in their appeal to the public; we understand about 13,000*l.* only has been raised. A meeting of the directors and subscribers was held yesterday, at the London Tavern, to take into consideration the propriety of continuing the working under their present disadvantages. The result of their deliberations, which were private, will probably be laid, at an early period, before a meeting of the shareholders.

GALVANISED IRON COMPANY.—The general meeting of shareholders was held at the London Tavern, on Thursday, the 25th inst.; but it having been determined by the directive interest that the press should not be present to narrate the proceedings for the information of absent shareholders, we have only to observe that, being excluded, the information we gathered was to the effect, that the concern would be wound up, and that 20s. in 1*l.* would be paid. While the shareholders may feel cause to regret the confidence placed in the management which they supposed would represent their interests, we cannot but lament that this is not a solitary instance where men incompetent to take upon themselves the management of an undertaking, with the working of which they are ignorant, have been compelled to admit their want of knowledge, and after making calls to pay claims, have thrown themselves upon the kindly mercies of their constituents. We believe them honest, but we consider them "incapables." If there was, however, nothing to conceal, why have a secret conclave, at the same time that, on former occasions, they invited the press? There must, therefore, be something "rotten in the state of Denmark."

WEST WHEAL PROVIDENCE.—The usual quarterly meeting was held on the 17th inst., when the accounts for June, July, and August, were examined and passed. The cost for the three months amounted to 581*l.* 2s. 9d., and the sales of tin realised 1176*l.* 5s. 1d. (less lord's dues, 65*l.* 7s.)—showing, with credit from last account, in favour of adventurers 564*l.* 7s. 7d. A dividend of 1*l.* per share was declared—leaving 52*l.* 7s. 7d. to credit of next account. The prospects of the mine are more favourable, in consequence of an improvement in the adjoining sett of Tremayne.

SOUTH YORKSHIRE RAILWAY.—Experimental trips have been made over the remaining portion of this line during the week, by Earl Fitzwilliam, the chairman, Mr. Denison, M.P., and Sir Isaac Morley, directors of this company, prior to the government inspector going over it to approve its opening for traffic on the 5th inst.

SOUTH-WESTERN RAILWAY EXTENSION INTO WINDSOR.—A secure foundation has at length been obtained for the bridge carrying this line over the Thames, and it is expected to be opened in a fortnight or three weeks.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

DEVON GREAT CONSOLS.—On Friday week a water-wheel (40 feet by 12 feet) was put to work in these mines; it is situated at the southern extremity of the sett, worked by a full supply of water from the River Tamar, and draws from Richards' shaft at Wheal Josiah 90 fms. deep. By the application of water power, it is anticipated that a great saving will be effected in carrying out the operations of this part of these concerns. Great credit is due to Mr. N. Smith (the engineer), and also to Messrs. Nicholls, Williams, and Co., of the Bedford Foundry, Tavistock, by whom the castings have been supplied.

EAST CROWNDALE MINE.—Since the new management has been installed, a marked improvement has taken place here. The returns have nearly met the costs, in contradistinction to the reckless expenditure formerly pursued. In the course of two months, it is anticipated that the returns will not only exceed the costs, but enable the adventurers to receive profits. The mine will then be so developed that its value will be able to be ascertained. The shaft is expected to be down to the 28 fm. level in the course of next month. In the 17 fm. level, a vein of argentiferous galena has been discovered, which the agent considered to be of a more than average per centage for silver.

EAST BIRCH TOR (TIN).—The men are stoping the backs on No. 5 lode, and have this week broken equally as good ground as last week. The tributers' backs, on south lode, are looking rather coarse at present. The stamps are constantly at work, and they expect to have a satisfactory quantity of tin against next sampling.

HENNOCK (SILVER-LEAD).—The engine-shaft will be completed in about a fortnight, when they will be able to get in on the lode, and raise copper, as well as silver-lead. They have a branch on part of the lode in the shaft now working, which produces some good stones of silver-lead, and a very rich-looking gossan, looking very well indeed.

WHEAL ANDERTON.—We are looking here better than last report, and shall sample 6 tons next week; the lower level is going forward not so well as last reported, but with every indication of improvement. We are doing well at surface, and the coming water we shall find most useful on our dressing-floors. The tinstuff fully averages, if not exceeds, the produce of the past few months

WHEAL NANTZ (Lelant).—The operations are progressing highly satisfactory; the sett, which immediately adjoins Wheal Reeth, contains the same. lodes, and it is expected that the returns will henceforth be equal, or nearly so, to the monthly cost. The expenses have heretofore been kept down; but it is contemplated to extend the sphere of operations.

WHEAL SHARP TOR.—The small portable steam-engine erected here by Messrs. Nicholls, Williams, and Co., of the Bedford Foundry, Tavistock, which started on the 16th inst., works very much to our satisfaction; its workmanship appears to be of the first order, and gives them great credit as founders; and also Mr. Mathews, the engineer. By the breaking of two joints it can be removed to any part of the world. This concern has been very recently undertaken by Mr. J. H. Hitchins, of the Devon Great Consols, and his co-adventurers; and, from the appearance of the lode on the back, which is nearly 30 feet wide, I have great confidence that these spirited shareholders will be well remunerated for their outlay.—*Liskeard, Oct.* 25.

[From the *Plymouth Journal.*]

WHEAL FRANCO.—The 62 fm. level, east and west, are a little improved. The lobby is being brought up to increase the fall of water, which will enable the adventurers to sink the mine many fathoms deeper, without the aid of steam; and there is every reason to expect, from the present indication, and the ore raised, that she will make a rich mine at a deeper level.

PLYMOUTH WHEAL YEOLAND.—Very little has been done since our last. The mine has, however, on the whole, improved.

BIRCH TOR AND VITIFER MINES, Oct. 22.—We have cut a cross-course in the 10 fm. level, east of Dunstan's shaft, on the Old Vitifer lode, which has carried the lode out of its course, but how far I cannot say at present. The lode in the 10 fm. level, west of Dunstan's shaft, is very regular, and is opening profitable ground. The ground in the 20 fm. level, west of this shaft, is still hard, but the lode has improved, and is now producing saving work; we have not taken down the lode in the 20 fm. level east since my last report. Our stopes are opening very well. We have cleared and secured 4 fms. in the old engine-shaft below the adit level; I hope to be in the 12 fm. level in a short time. The stopes east and west of Prideaux shaft, on Birch Tor lode, are producing fair work, and so are the stopes in the back of the shallow adit level. The ground in the cross-cut, on the north lode, is better for driving than it has been for some time.

LOCOMOTIVE ENGINES—PROPOSED PUBLIC CONTEST.

TO ROBERT STEPHENSON, ESQ., C.E., M.P.

SIR,—It is now about 20 years since the competition for the premium of locomotive superiority was played off at Rainhill, on the Liverpool and Manchester Railway. Your father and mine were the principal competitors. Since that period you have generally been looked to by the public, as standing first in the construction of locomotive engines. Understanding that you have now running on the York, Newcastle, and Berwick Railway, a locomotive engine, which is said to be the best production that ever issued from Forth-street Works, I come forward, and tell you publicly, that I am prepared to contest with you, and prove to whom the superiority in the construction and manufacture of locomotive engines now belongs. At the present crisis, when any reduction in the expense of working the locomotive engine may justly be hailed as a boon to railway companies, this experiment will, no doubt, be regarded by them with deep interest, as tending to their mutual advantage. I fully believe that the York, Newcastle, and Berwick Railway Company will willingly afford every facility towards the carrying out of this experiment. Relying upon your honour as a gentleman, I hold this open for a fortnight after the date of publication.—I am, Sir, &c., JOHN W. HACKWORTH.

Soho Works, Shildon, near Darlington, Oct. 25. 66

SUBSTITUTE FOR THE CRANK.—Professor Frazer lately exhibited, at the Franklin Institute, a model of a contrivance by Mr. G. W. Risden, intended as a substitute for the crank in converting rectilinear into rotary motion. The model consisted of two cylinders, the pistons of which were connected by a cross-head, to which were attached two vertical racks, passing one on each side of the first axis of the machinery, upon which is placed a toothed semi-circle, so adjusted that during the descent of the pistons it is driven by one rack, and during the ascent by the other; the circular motion is thus continually preserved. A shifting catch at one extremity of the toothed segment allows the motion to be reversed with rapidity and ease.

FALL OF A RAILWAY VIADUCT AT PRESTON.—On Thursday afternoon an occurrence of a most destructive nature, so far as property is concerned, though happily unattended with loss of life, took place at Preston. During the last nine or ten months some hundreds of men have been employed in the construction of a viaduct in the Ribble Valley, forming part of the Preston extension of the East Lancashire Railway—a branch by which it is intended to form a connection with the main line at Lostock junction (some two or three miles from this town), so as to render the company independent of the North Union. The viaduct is intended to consist of 52 arches, altogether about 600 yards in length. The arches (which are built upon piles) are constructed of brick, with stone "springers." The following particulars of the accident have been furnished by one of the workmen, an eye-witness of the catastrophe. In consequence of the wetness of the weather, the bricklayers were not at work at the time of the occurrence—an extremely fortunate circumstance, as had it been otherwise a fearful sacrifice of life must inevitably have taken place. The only men engaged at the viaduct at the time of the fall were some half dozen, who were making preparations for the resumption of work by the bricklayers. About half-past one o'clock our informant heard a noise, which he describes as resembling "the report of a gun," and immediately afterwards 18 of the arches fell in with a tremendous crash. The whole of the centres, with the exception of three sets, had been removed, for the erection of other arches. Of the three remaining in, two sets had been "slackened," preparatory to removal. We need scarcely state that these centres were smashed to atoms. Fortunately, no one was underneath the arches at the time of the accident, and no injury was sustained by any of the workmen. With respect to the precise cause of the fall, no satisfactory information has yet been obtained. The only opinion hazarded upon the subject is, that the foundations of the arches have given way, in consequence of being surrounded by water. The amount of loss consequent upon this work of demolition cannot at present be ascertained, but it must be very considerable.

THE ABERDEEN RAILWAY.—The extension of this great trunk line to within 12 miles of Aberdeen, will be opened for passenger traffic on Tuesday next, the 30th inst. The directors received the certificate of the Railway commissioners a few days ago. The line will be opened to Portlethen in about three weeks more, bringing it to within four miles of Aberdeen, to which place it will be open in December, thus affording an uninterrupted line of communication from London to Aberdeen—a distance of 500 miles.

LOUVAIN AND SAMBRE RAILWAY.—The adjudication for the completion of the works on this line, the concession of which had been accorded to Messrs. Tarte and Co., was to have taken place at Brussels, on Wednesday last. The price fixed by the Government was 3,000,000*l.* At the time appointed many persons presented themselves, but no propositions were submitted.

MIDLAND RAILWAY.—The rating of this line between Leeds and Bradford, for three miles in the parish of Bingley, has been reduced from 3125*l.* to 1500*l.*

LATEST CURRENT PRICES OF METALS,

LONDON, OCTOBER 26, 1849.

	a	*per ton.*
ENGLISH IRON.		
Bar, bolt, & square, London	£5	15 0
Nail rods	6	15 0
Hoops	7	10 0
Sheets (singles)	8	10 0
Bars, at Cardiff & Newport	4	15–5 0
Refined metal, Wales*	3	10–3 15
Do. anthracite*	3	15 0
Pigs in Wales	3	10–4 0
Do. do. forge	2	10–2 15
Do., No. 1, Clyde ....*net cash*	2	3–2 4
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3	15 0
Do., do., for tin-plates, boiler plates, &c., ditto	4	10 0
Stirling's Patent in Glasgow	2	12–2 14
Toughened Pigs in Wales	3	0–3 15
Staffordshire bars, at the works	6	10
Pigs, in Staffordshire		
Rails	5	0–5 5
Chairs	4	0 0
FOREIGN IRON. *b*		
Swedish	11	0–11 10
CCND		
PSI		
Gourieff		
Archangel		
FOREIGN STEEL. *c*		
Swedish keg	14	10–14 15
Ditto faggot	15	10 0
ENGLISH COPPER. *d*		
Sheets, sheathing, & bolts, *p. lb.*	0	0 9½
Tough cake .....*per ton*	£4	0 0

	e	*per lb.*
Tile	£3	0 0
Old copper *e*		8½
Yellow (metal) Sheathing		8d
FOREIGN COPPER. *f*		
South American, in bond		——
ENGLISH LEAD. *g*		
Pig .....*per ton*	15	15 0
Sheet	16	15 0
Red lead	17	10 0
White ditto	22	0 0
Patent shot	19	15 0
FOREIGN LEAD. *h*		
Spanish, in bond	14	10–15 5
American ditto		
ENGLISH TIN. *i*		
Block .....*per cwt.*	3	13 0
Bar	3	14 0
Refined	3	19 0
FOREIGN TIN. *k*		
Banca, in bond	3	12 0
Straits	3	10–3 17
Peruvian (6 mo 2½ p. ct. dis.)	3	6 6
TIN-PLATES. *l*		
IC Coke .....*per box*	1	7–1 7 6
IC Charcoal	1	10 6–1 11 6
IX ditto	1	15 6
SPELTER. *m*		
Plates, warehoused ..*per ton*	14	10–14 15
Ditto, to arrive	14	7 6–14 10
ZINC. *n*		
English sheet .....*per ton*	20	10–21
QUICKSILVER *o* .....*per lb.*	2*s.*	11*d.* 3*s*

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.

* Cold-blast, free on board in Wales.

REMARKS.—The market continues dull for all kinds of metals, and the transactions of the last week have been but upon a limited scale. Welsh bars are slow of sale, and are to be obtained at from 4*l.* 15s. to 5*l.* per ton, free-on-board in Wales. Scotch pig-iron, under the influence of some speculative purchases, advanced last week to 43s. for mixed Nos., but has since fallen back again to about the old level; this is not to be wondered at, when we compare the present production and shipments with those during the same period of last year, and which we give below:—

Furnaces at present in blast		114
Ditto, in 1848		102
Increase		12
Shipments for the first nine months of 1849	*Tons*	304,602
Ditto ditto 1849		280,913
Decrease in 1849	*Tons*	23,689

The market closes rather flat at 42s. for mixed Nos., net cash, free-on-board at Glasgow.—Spelter is rather firmer.

LIVERPOOL, OCT. 26.—Manufactured iron has been more pressed for sale this week, and prices have consequently given way a little. Welsh bars have been sold at 4*l.* 15s., f. o. b. in Wales; and f. o. b. out of store here, 5*l.* 7s. 6d. may be considered the price. The improvement in Scotch pigs has not been supported, and the price has again receded to 42s. per ton for S. M. B. f. o. b. at Glasgow, with a downward tendency. There is a good business doing in tin plates at 27s. for I. C. coke, and 31s. for I. C. charcoal.—Lead and copper are in moderate demand, at former rates.

GLASGOW, OCT. 25.—The market has been quieter this week, and the tone not quite so firm. The demand is chiefly for small parcels, and of these sellers are scarce. The price may be quoted at 42s. 6d. for mixed Nos.—cash.

CALCUTTA.—At the date of our last report the market for copper was looking some what better, owing to improved accounts from Mirzapore, but lately it has again become dull, and prices then current have been with difficulty maintained.—In iron, stocks are heavy, and prices of most sorts have still a downward tendency.—A sale of 600 mds. of steel is reported. Swedish sold at 6 Co.'s rs. per fy. md.—Lead continues in fair request.—Spelter remains much neglected, and its value chiefly nominal; a sale of 1500 mds. is at length reported, however, at Co.'s rs. 7-8 per fy. mds.; but there is a most unexampled want of demand for the upper provinces, considering the season of the year.

CANTON, AUG. 27.—Iron continues to droop, and the shipments to arrive do not promise great results.—Lead has advanced $1 per picul, and is in demand here, as well as at the north.—The small stock of tin plates in hands of importers is held at stiff rates.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars	per oz.	£3 17 9	New dollars	per oz.	£0 4 10
„ Portugal pieces....		0 0 0	Silver in bars (standard)		0 4 11½

ORIGIN OF THE TICKETING FOR COPPER ORES.

About the year 1700, some merchants at Bristol bought the Cornish ores at prices varying from 2*l.* 10s. to 4*l.* per ton. Their gains were so considerable, that they could not long be kept secret. About 20 years afterwards, other parties, at the same place, covenanted with some of the principal mines to buy all their copper ores for a term of years at a stated price. About the year 1725-27, great quantities of copper ore was risen from three mines—Huel Fortune (in Ludgvan), Roskear (in Camborne), and Pool Audit (in Ilogan)—the produce of which mines were to be sold to the few buyers at their own price. The four copper companies then existing were the Brass Wire Company, the English Copper Company, Wayn and Co., and Chambers and Co., who being united and confederated, had it then, as their successors have at present, their own way. They were interrupted by a gentleman from Wales, who visited the country in order to improve his business. At that time 1400 tons of copper ore, which had been lying unsold at Roskear and Huel Kitty, were offered to him, for which the associated monopolists would give only 4*l.* 5s. per ton. So contracted were the principles of the miners in those days, that they obliged the purchaser to deposit a sum of money equivalent to the supposed amount of their ores, before they would consent to weigh them off at the advanced price they agreed to take Fourteen hundred tons of ore were purchased at the advanced price of 6*l.* 5s. per ton, which was paid for in cash; the returns on this were over 30 per cent. What must have been the profits of companies confederated to serve their own interests, without limitation or control? This new comer then purchased 900 tons more at Roskear, at 7*l.* per ton; and in less than six months before he left Cornwall he purchased 3000 tons, on which it is supposed he made a profit of 40 per cent. Soon after this, the buyers and sellers mutually agreed to ticket for all copper ores, which should be ready for sale at stated periods, and the highest bidder or ticket should be the purchaser. On the very outset of this compact 300 tons of ore, belonging to the same mine, were to be ticketed for in Redruth, when the agent of the mine having absented himself some time beyond the limited hour of sale, a certain gentleman, of great address, power, and fortune, declared himself the purchaser, by private contract, at 8*l.* 17s. per ton, when one of the ticketers produced his ticket before all the company, whose offer was 9*l.* 17s., to the shame and confusion of all the adventurers. To this nefarious system is to be ascribed the present mode of ticketing. The proprietors found themselves in a distressing and ridiculous predicament, possessing a commodity whose value they could not ascertain; and the buyers formed themselves into a confederacy, the most pernicious and destructive to the mining interest. The secret transpiring, other companies were formed, and a better price was given for the ore, yet far beneath its just value. At the ticketing day, then (as now) a dinner was provided at the expense of the mines, in proportion to the ores they had on sale, and the system appears to have experienced but little modification since it was first introduced.

ACCIDENTS.

Delabole Slate Quarry.—J. Nottle was killed by a stone falling from the cliff on his head.

Par Consols.—Richard Lucas was killed by a large rock falling on him in the mine.

Tipton.—James Henry Smith was killed by a fall of stone at the Castle Mill Quarry, belonging to Lord Ward. The poor fellow was quickly extricated, but died while being conveyed to his home at Tipton.

Durham.—Peter Hoy was killed while following his employ at the Bitchburn Colliery.

Darlaston.—John Whitehouse, a miner, employed in one of Messrs. Addenbrook's pits, on Saturday morning, was engaged in laying rails, a quantity of coals suddenly fell upon him, and injured him so dreadfully that he died in the course of the day.

Aberdeen.—As several workmen were boring in Mr. Tarrie's quarry, at Pitfodels, a superincumbent bank gave way, a stone from which struck David Forbes, breaking his leg, and otherwise severely injuring him.

Serious Accident at the Shrubbery Iron-Works.—William Carter, of Moxley, and George Wooth, of Spring Gardens, were employed on the inside of a boiler at the Shubbery Works, in making some repairs, when, in consequence of the engineer having failed properly to secure the valve, the steam from an adjoining boiler, with which the one undergoing repair was connected, rushed into the interior where the men were at work, and scalded them very badly on their heads, necks, chests, and arms. Wooth was not so severely injured as Carter, he being nearest to the "man hole" at the time the steam rushed in, and through which he succeeded in making his escape almost instantaneously. The two men were removed to the South Staffordshire Hospital, where they met with every attention which their respective injuries required.—*Wolverhampton Chronicle.*

Dudley.—Richard Perry sustained such a severe fracture of his right leg by a fall of stone at Mr. Haden's Colliery, Butteries, that amputation of the limb was deemed necessary. The operation was performed the same evening, under the influence of chloroform, by Thomas Fereday, Esq., the colliery surgeon, and the poor fellow is going on as well as can be expected.

Swansea.—As David Williams, of Cwmbach, with two other men, were engaged in a certain portion of the works at the Weig Fach Colliery, one of them, for the purpose of more easily finding some tools which had been mislaid, displaced the cap of his Davy lamp. The combustible air which had accumulated in that portion of the pit immediately ignited. An explosion was the consequence. The man who carried the lamp, and another collier, sustained somewhat severe injuries, but the deceased, who was farthest of the three from the seat of the explosion, was burnt so seriously as to cause his death in the course of a few hours.—*Swansea Herald.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 198¾ 7¾	Belgian, 4½ per Cent., 87 ½
3 per Cent. Reduced Ann., 91 ½	Dutch, 2½ per Cent., 53¾ ⅞
3 per Cent. Consols Ann., 92¼ ⅜	Brazilian, 5 per Cent., 83½
3½ per Cent. Ann., 92⅞ ¾ ⅞	Chilian, 6 per Cent., —
Long Annuities, 8⅞	Mexican 5 per Cent., ex Coup., 26¼ ⅜
India Stock, 10½ per Cent., 257	Russian, 5 per Cent., 107
3 per Cent. Consols for Acc. 92¼ ⅜	Spanish, 5 per Cent, 16⅞ ¾
Excheq. Bills, 1000*l.*, 1½d. 41 44 pm.	Ditto 3 per Cent., 33¾ 4 ¼

MINES.—The mining share market continues in much the same position as last week. A fair demand for shares in leading mines is maintained, and the business actually transacted appears, on the aggregate, an average amount.

West Buller, South Frances, East Wheal Rose, Bedford, Trehane, &c., have been in request during the week.

North Pools are sought for. The lode in the shaft is much improved, and the mine generally never looked better. West Setons are also in request, the improvements continuing in the 55 fm. level, at present worth 50*l.* per fm.

Stray Park and East Pool are represented to have improved in the discoveries recently reported.

In Camborne Consols, a valuable discovery has been made in the 20 fathom level, from whence some splendid stones of silver ores have been taken. We have seen some of the specimens having a regular vein of native silver running through them. Two assays have been made, which give respectively 1275 ounces and 1047½ ounces to the ton of ore. The specimens we have seen are far richer. A demand for shares has been the result.

In Wheal Tremayne, a great improvement has been made; in one level the lode is stated to be worth 90*l.* per fathom. A profit of 500*l.* was made during the last two months; and the probability is, that an increase will be made.

Holmbush is stated to have considerably improved in the Flap-jack lode, now producing 8 tons of ore to the fathom.

West Wheal Providence shares have been done at an advance, arising from an improvement in the adjoining mine of Wheal Tremayne; but a reaction has taken place.

At a meeting of Wheal Friendship adventurers, held on Thursday, a dividend of 10*l.* per share was declared, being the third this year.

West Buller paid a dividend of 10*l.* per share at the quarterly meeting, held on the 16th., and the prospects are represented as considerably improved; the dividends in future will be bi-monthly.

Shares in the following mines have changed hands since our last:—Devon Great Consols, East Wheal Rose, Trehane, South Basset, Stray Park, Callington, West Providence, South Frances, Holmbush, Trelawny, Kingsett and Bedford, Tincroft, Camborne Consols, Condurrow, Tamar Consols, East Tamar, Bedford, Mendip Hills, Tremayne, South Tamar, West Treasury, East Pool, &c.

Tregorden Mine account, for the months of July and August, was held on the 15th inst.; the statement of accounts show a balance of 249*l.* 17s. 4d. against the adventurers, and a call of 10s. per share was made. The agent's report of the mine is very encouraging, and the prospects far more cheering than at the last account. In the 20 fm. level the lode has improved, and the 12 fm. level more than pays for driving, leaving profitable backs for stoping; the stopes alone will give about 4½ tons of very rich ore per month; and as an improvement is anticipated in the 20 fm. level, the mine will then be in a profitable position.

At the West Wheal Providence quarterly account, there appeared a profit of 529*l.* 15s. 4d., which, with balance from last account, allowed a dividend of 2*l.* per share, carrying to credit a balance of 52*l.* 7s. 7d. The prospects of the mine are considered more encouraging by an important discovery in Wheal Tremayne, which immediately adjoins this sett.

East Pool account, for August and September, showed a loss of 212*l.* An important discovery has been made above the 16 fm. level—the lode being worth about 40*l.* per fathom.—The other parts of the mine are represented as progressing, without any particular change.

At the meeting of the Asturian Company, the proposal of Mr. Moore, for winding-up the present company, was adopted—a lengthened report of which meeting will be found in another column.

Having had frequent applications for a list of those mines which pay dividends, as presenting the more certain medium of investment, we append the following, made up to the present time, with the amount of dividend per annum, and the period of meetings:—

Name of Mine.	Per annum.	Dividend declared.
Devon Great Consols	30*l.* to 35*l.*	Bi-monthly.
East Wheal Rose	180*l.* to 210*l.*	Ditto.
Carn Brea	12*l.* to 15*l.*	Ditto.
North Pool	150*l.*	Ditto.
South Wheal Francis	60*l.*	Ditto.
South Wheal Basset	60*l.*	Ditto.
Treviskey and Barrier	35*l.*	Ditto.
West Buller	60*l.*	Ditto.
Par Consols	120*l.*	Quarterly.
West Caradon	15*l.*	Bi-monthly.
Wheal Trelawny	16*l.* to 20*l.*	Quarterly.
Wheal Trehane	10*l.* to 12*l.*	Bi-monthly.
Levant	30*l.*	Ditto.
North Roskear	18*l.* to 25*l.*	Ditto.
Wheal Margaret	48*l.*	Quarterly.
Stray Park	—	Periodically.
Polgooth	15*l.* to 20*l.*	Bi-monthly.
Wheal Friendship	30*l.*	Periodically.
Tincroft	10 to 20 *per ct.*	Half-yearly.
Bedford United	10s.	Ditto.
Tamar Consols	10 to 20 *per ct.*	Ditto.
West Providence	8*l.*	Quarterly.
South Caradon	30*l.*	Bi-monthly.

There are several others paying dividends, but not having their exact amounts, we have deferred inserting them. Among those about to resume dividends, and others on the eve of commencing, we may name Wheal Seton, Condurrew, Mary Ann, Trethellan, Wheal Franco, West Seton, South Caradon, Wellington Mines, East Pool, Birch Tor and Vitifer, Wheal Trescol, Comfort, South Tolgus, Treleigh Consols, Balleswidden, &c.

The Welsh dividend mines being principally in private hands, we are not in a position of giving the amount of dividend paid; but the following may be considered as amongst the principal:—Lisburne, Goginan, Pen-y-clean, Llanfair, Esgargalid, Delify, Talargoch, Halkin, Milwr, Jamaica, Maes-y-safn, Fronfownog, &c.

In foreign mines there have been some considerable transactions, the chief business having been in United Mexicans, which have advanced, St. John del Rey, Copiapo, Imperial Brazilian, National Brazilan, Gandalcanal, &c.

Letters from the Linares Silver-Lead Mines have been received, and report the progress of the operations, and the working of the engine in a satisfactory manner. We hope shortly to be enabled to report something more gratifying from deeper levels.

Despatches have been received by the St. John del Rey, Imperial and National Brazilian Associations, and the United Mexican Mining Company.

The Imperial Brazilian letters are to 26th August. The gold returns from Gongo and Bananal, from the 3d to 22d August, were 9 lbs. 5 ozs. 9 dwts.; the total, from the 1st July, from both mines, amounts to 35 lbs. 8 ozs. 4 dwts.; gold dust to the value of 4800*l.* has been received by the *Penguin* packet. Captain Joel Hitchens has reported himself at the mines, but has not had time to inspect and make a report of the present prospects of them. Mr. Henwood, the late commissioner, we are pleased to learn, arrived at Falmouth, per the *Penguin*.

St. John del Rey advices are to the 18th August; the profits for the month of July are shown at 3104*l.* 12s. 8d. The report, which is given in detail, will be found under the head of Foreign Mines.

The National Brazilian advices are to the 22d August. The produce from Cocaes, from the 4th to the 13th August, is mks. 7 1 2 71; and from the agent's report of the Cuiaba Mines, the prospects and general appearance of the lode favours the presumption, that some good ground will shortly be opened at Le Page's stopes. The lode in Hamilton's stopes, at Cocaes, being now clear of the cross-course, presents appearances of an improvement, inasmuch that the lode is coming more together, similar to where, on the eastern side of the cross-course, it was found rich and productive.

The United Mexican letters are to the 6th Sept., which represent a great improvement in the mine of Rayas; but the most important feature is, that the new mine of Promontorio, which adjoins the Rayas property, was promising to surpass in productiveness the workings in that celebrated mine. A conducta is expected to leave for the coast in October, by which a remittance of from $30,000 to $40,000 will be forwarded for shipment to the directors.

The Bolanos letters, to the 3d September, give the general operations for the month of August. The Celestina and La Grange Mines made a profit of $1206 6 7, and El Bote sustained a loss of $167 2 7.

The Royal Mail steam-ship, *Severn*, arrived on Saturday, the 20th inst., with the usual British and foreign, West Indian, and Mexican mails, and bringing on freight $1,830,785 in silver on merchants' account, and $85,275 for account of the Mexican dividends, and a small quantity of gold—total value, 225,000*l.* H. M. packet, *Penguin*, arrived at Falmouth on the 23d inst. with the Brazilian mails, and bringing on freight about 20,000*l.* in gold and diamonds.

HULL, THURSDAY.—We have to report an improved market for shares. London and North-Western stock has been particularly buoyant; Hull and Selbys are very flat, owing to the unsatisfactory amount of the York and North Midland weekly traffic.

KONGSBERG SILVER MINES.—The produce of these mines for the month of September was 1885 marks 2 ounces of fine silver. The returns for the same period in the preceding year was 3821 marks 3 ounces of fine silver; so that a considerable deficit is likely to ensue on the result of the workings of the present year.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwesain	9	9
1024	Alfred Consols	8¾	11
1000	Antimony&Silver-Lead	5	—
1024	AshburtonUnited Mines	8½	12
1024	Balleswidden	9	18
128	Balnoon Consols	42½	50
1000	Barristown	5½	1½ 2
3650	Bawden	¼	⅛ ¼
4000	Bedford	2½	3½ 4
1280	Birch Tor & Vittifer	10½	6¾ 7
8000	Blaenavon	50	10
5000	Blisland Consols	1	5½
100	Botallack	182	30
120	Brewer	5	2½
256	Brimpts Tin	2½	2½
10000	British Iron, New, regis.	12	8
—	Ditto ditto, scrip	10	10
2400	Bryn-Arian	2	6 6½
128	Budnick Consols	52½	25
1000	Callington	22	7 8
1000	Camborne Consols	7	5½ 10
20000	Cameron's Steam Coal	7	1
256	Caradon Copper Mine	9½	1½
256	Caradon Mines	22½	10
256	Caradon United	24	5 8
256	Caradon Wh. Hooper	21	4½
1000	Carn Brea	15	105
3000	Carthew Consols	1½	6
114	Charlestown	220	—
500	Comblawn	5½	4½
128	Comfort	45	60 65
256	Condurrow	20	70 75
2560	Cook's Kitchen	14	2¾ 3
1000	Coombe Valley Quarry	4½	5
1000	Copper Bottom	1½	6½
900	Court Grange	7	7½
212	Craddock Moor	23½	5
128	Creeg Braws	120	30
500	Cubert Mine	12½	—
1000	Cwm Erfin	3½	3 3½
7100	Derwent	8½	5
845	Devon&CourtenayCon.	7½	1½ 2
1024	Devon Great Consols	1	185 200
1000	Dhurode	2	5
182	Dolcoath	30	15
2560	Drake Walls	5½	3
10000	Durham County Coal	45	9
3000	Dyngwm	10	10 12
512	East Alvenney	5½	6
2500	East Birch Tor	3	3
1024	East Buller	1	3¾
112	East Caradon	47	47
2048	East Crowndale	6½	4
128	East Pool	15	70 72 80
9000	East Tamar Consols	¼	¼ ½
94	East Wheal Crofty	125	65 70
128	East Wheal Rose	50	630 650
—	East of Scotland Iron Co.	5	1¼
123	East Wheal Seton	14	10
1280	Esgair Liee	1½	4 4½
248	Exmoor Wh. Eliza	6	6
494	Fowey Consols	40	45
1024	Freidd Llwydd Mines	1½	3½
4000	Gen. Mining Co. for Irel.	1½	1½
256	Gonamena	44½	16
128	Goonvrea	4	2
256	Grambler & St. Aubyn	80	5 7
100	Great Consols	1000	220 240
512	Gt. Wh. Rough Tor Con.	24½	18 20
6000	Growa Slate Company	5	5
6000	Helguston Down Con.	1½	¾
1500	Hennock Silver-Lead	1s	2
4500	Hennock Iron & Tin	21s	21s
256	Herodsfoot	27	12 13
10000	Hibernian	12½	1½
1000	Holmbush	22	6
1024	Kingsett and Bedford	1½	3¾ 4¼
787	Kirkcudbrightshire	8½	2½
2048	Lamherooe Wh. Maria	8	2½
252	Lanarth Consols	—	4
128	Lelant Consols	90	40 50
160	Levant	—	160
1000	Lewis	17	9½ 10
1000	Llwynmalees	8	5½ 8
3600	Llynvi Iron	50	30
253	Lostwithiel Consols	23	10
6000	Marke Valley	10	¾ 1
5000	Mendip Hills	3½	2½ 3
128	Metha	34	—
20000	Mining Co. of Ireland	7	3¾
256	New East Crowndale	3½	2½
100	North Pool	45	530
140	North Roskear	5½	150
262	North Wh. Leisure	1½	2
256	North Wheal Basset	10	10 12 15
15000	Northern Coal Co.	23	2
12	Old Wheal Prosper	—	75
128	Par Consols	55½	650
1248	Pengelly Tin	1	1
8000	Pennant & Craigwen	2½	2
1024	Penzance Consols	22s 3d.	4
512	Plymouth Wh. Yeoland	6½	6
200	Polsaith Consols	5½	4½
2500	Rhoswiddol&Bacheiddon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6½
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
2048	Runnaford Coombe Tin	¾	5
9000	South Tamar	¼	1¾ ⅞
128	South Caradon	5	300 350
1100	South Dolcoath	5	½ 1
256	Sth. Friendsh. Wh. Ann	30	28 30
256	South Molton	5	12 13
256	South Tolgus	16	30
256	South Trelawny	28½	5
2000	South Wales Mining Co.	¾	1 1½
128	South Wheal Basset	20½	350 360
124	South Wh. Frances	160	275
256	South Wh. Josiah	1½	5 6
1000	South Wh. Maria	2½	1½
10000	Southern&Western, Irish	2½	4
280	Spearne Moor	30	40
94	St. Ives Consols	—	80
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	21 22 24
9600	Tamar Consols	3	7½ 8
10240	Tavistock Consols	¼	¼ ⅜
1024	Tavy Consols	6½	1½
6000	Tincroft	7	12 12½
58	Tokenbury	170	10
120	Tolcarne	8	10
256	Tregorden	3½	5 5½
256	Trehane	1½	27 30
5000	Treleigh Consols	6	3½ ¾
2000	Trenance	3	—
96	Tresavean	10	95
120	Trethellan	5	17½ 20
120	Treviskey and Barrier	130	130
1000	Tyllwyd	2	2½
200	United Mines	50	155
256	Wellington Mines	25	35
128	West Buller	10	375
256	West Caradon	20	110 115
512	West Fowey Consols	40	12
—	West Par Consols	2½	—
512	West Providence	9	26 32 26
200	West Seton	45	180 190
120	West Trethellan	5	3
512	West Wheal Frances	1½	3
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	12	⅞ 1 ⅛
256	West Wheal Tolgus	80	7½ 10
256	West Wheal Treasury	19	10 15
1024	Whiddon Mines	4½	2
5200	Wicklow Copper	5	8½ ¾
107	Wheal Adams	79	80
1000	Wheal Agar	—	6
256	Wheal Albert	10	1
240	Wheal Anderton	28	10 15
128	Wheal Ann	—	50½
512	Wheal Anna Maria	7	4
120	Wheal Bal	5½	10
256	Wheal Benny	14½	2
1024	Wheal Bray	10	10
256	Wheal Blencowe	21	12
232½	Wheal Calstock	9	20 25
256	Wheal Fortescue	15	—
388	Wheal Franco	27	11 12
128	Wheal Harriet	45	—
100	Wheal Henry	—	35
1024	Wheal Lawrence	2½	2½
112	Wheal Margaret	79	225 230
512	Wheal Mary Ann	5	26 27½
5000	Wheal May	¼	¼ ⅜
360	Wheal Oak	6	5
3000	Wheal Penhale	8	9
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	3
198	Wheal Seton	214	250
180	Wheal Sisters	35½	5
512	Wheal Sophia	5½	7
128	Wheal Spearne	10	68 70
128	Wheal St. Ann	30	35
550	Wheal Trescoll	10½	19 20
260	Wheal Trelawny	7½	80 85
256	Wh. Tremaine (St. Ervan)	9½	2½
1024	Wheal Tremayne	9½	5½
92	Wheal Tryphena	140	100
1000	Wheal Vincent	2½	7
128	Wheal Viow (Perranz.)	1½	1½
184	Wheal Vyvyan	—	60

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	2½ 2¾
15000	Asturian Mining Co.	15	2½
20000	Australian	3	5½ 6¾
6000	Barossa Range	1¾	1½ ½
3000	Bolanos	150	—
2000	Ditto Scrip	15	—
10000	Brazilian Imperial	23	3 3½
12000	Cobre Copper Co.	40	23¾ 4
10000	Copiapo Mining Co.	14	4 4½
20000	General Mining Ass'n.	20	10½
4000	Guadalcanal	5	2½ 3
5000	Kinzigthal Mining Ass.	2	1½
5051	Mexican Company	59½	—
2000	Mexican & South Amer.	8	1 1½
8000	National Brazilian	30	4 4½
104000	N. Brit. Australasian	1	10s
7000	Royal Santiago	10	5
11000	St. John del Rey	15	10½
13174	United Mexican ...Av.	28½	4 4½
10,000	Worthing (S. A.)	2	2½

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Length. 1849	1848	Present actual cost.	Price p. share	Div. 1848	Traffic Returns. 1849	1848
Aberdeen	33	16	1,000,547	15½ 14½	—	£ 484	£ 485
Belfast and Ballymena	37½	37½	514,968	19½	5*	453	409
Birkenhead, Lancashire, & Chesh.	19	15	1,088,804	37	5†	822	773
Bolton, Blackburn, & West Yorksh.	14	—	786,384	5½	—	438	267
Bristol and Exeter	85½	75½	2,660,490	59	—	4199	—
Caledonian	154	141	5,149,320	13½ ¾	3	6812	5071
Chester and Holyhead	84	59½	3,358,217	11	4	1684	—
Dublin and Drogheda	35½	35½	778,565	28	—	784	818
Dublin and Kingstown	7½	7½	395,915	—	—	712	727
Dundee, Perth, & Aberdeen Junc.	47½	47½	544,554	15½	6½	1073	945
East Anglian (Lynn to Ely)	91½	55½	1,247,446	1½	—	815	817
East Lancashire	75½	24	2,628,519	13½ 14½	5	3175	1541
Eastern Counties and Norfolk	322	295	12,027,069	7 6½	—	16218	16046
Eastern Union	78	50½	1,782,703	13	—	1600	1431
Edinburgh and Glasgow	57½	52½	2,923,199	31 31½	6	3573	3535
Edinburgh and Northern	78	34	2,241,276	10½	2	2248	1807
Glasgow, Paisley, and Ayr	102½	74	2,574,330	59	3	3937	2606
Glasgow, Paisley, & Greenock	23	23	852,846	16½	2	974	987
Gt. Northern & East Lincolnshire	143	—	5,138,756	7½	5†	2812	—
Gt. Southern & Western, Ireland	168½	110½	3,552,589	28½	6†	3454	4304
Great Western	230½	206½	11,867,042	56 57	6½	17314	20120
Lancaster and Carlisle	90	70	1,476,102	48	4½	3850	2556
Lancashire and Yorkshire	206½	127½	10,063,862	60	5½	11133	10959
Liverpool, Crosby, & Southport	13	—	84,455	3½	—	101	121
London and North Western	478	428	26,251,635	113 114½	7	44401	43048
London and Blackwall	5½	4	1,299,675	2½ 3	1-12	675	665
London, Brighton, & South Coast	170	162½	6,502,600	70½ ¾	2½	10768	9921
London and South-Western	220½	194	7,874,259	30½ 1	5½	10472	10281
Londonderry and Enniskillen	14½	14½	185,739	16	—	143	143
Manchester, Sheffield, & Lincolnsh.	157½	94½	6,598,260	21½	5	4993	2845
Midland Company	471	423½	15,133,779	47½ 6½	5½†	22938	22391
Midland Great Western (Irish)	50	36½	725,332	22½	4†	1257	1217
Monklands	36	—	486,245	—	6		
North British	122	83	3,649,055	10⅞	4½	3113	2581
Scottish Central	45½	—	1,364,228	17½	7	1366	1041
Shrewsbury and Chester	43	23	969,618	12	5	1523	1340
Shropshire Union	30	—		2 1⅞	—	430	—
South Devon	57½	29	1,909,232	6	5	1466	1564
South-Eastern	189½	165½	8,666,007	18 ½	5½	12239	10204
Taff Vale	38	40	879,110	—	7½	1862	1984
Ulster	36	36	723,829	45⅞	—	715	802
Waterford and Limerick	25	—	512,894	—	—	252	—
West Cornwall	13	—		—	—	275	277
Whitehaven Junction	12	12	150,879	9½	3	220	202
York, Newcastle, & Berwick	290½	242½	6,827,849	17½	7	13607	13124
York and North Midland	256	234	4,983,618	19½ 19½	7	6804	8109

FOREIGN RAILWAYS.

Names of Railways.	Length. 1849	1848	Present actual cost.	Price p. share	Div. 1848	Traffic Returns. 1849	1848
Amiens and Boulogne	76½	68	1,462,562	5½ 5⅞	2½	1613	1390
Dieppe	26	—	—	—	—	643	309
Dutch Rhenish	57½	57½	—	1½	—	1038	1054
Montereau and Troyes	71½	71½	—	—	—	1027	609
Northern of France	211	211	7,142,890	2⅞ 3	—	17830	16800
Orleans to Bourges (Central)	107½	107½	1,229,848	—	4	3093	2338
Orleans to Tours	72	72	600,000	32	6	3300	2927
Paris and Orleans	82	82	2,011,720	30½	8½	9296	8580
Paris and Rouen	85	85	2,082,916	20 ½	5	6705	5678
Rouen and Havre	59½	—	2,272,176	9⅞	—	2783	1971
Strasburgh and Basle (monthly)	88	88	—	6	—	—	—
West Flanders (ditto)	—	—	—	1½	—	—	—

* Per cent.—† Interest.—Total for last week, £231,100, being an increase of £8241 over last year.

JOINT-STOCK BANKS.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	£3	£24½
20,000	British North American	50	6	40½
20,000	Colonial	25	5	6¼ 6½
20,000	Commercial of London	20	6	20½
60,000	London Joint-Stock	10	6	17¾ 17½
40,000	London and Westminster	20	6	24¾ 24½
10,000	National Provincial of England	35	5	36½
20,000	National of Ireland	22½	6	18½
20,000	Provincial of Ireland	25	8	38½
10,000	South Australia	22½	—	17¾ 18
20,000	Union of Australia	25	6	2⁶½ 26⅞
60,000	Union of London	10	6	10½

Mr. Blackwell, the Government Inspector of collieries, has been inspecting the various collieries in the neighbourhood of Swansea during the week.

THE ABERNANT STRIKE—THREATENED OUTBREAK AT ABERDARE.—The men still continue out, and, in defiance of threat or imprisonment, are unanimously determined not again to work at the Abernant coal-pits for the same wages as before. The bad example shown by these misguided men has in some measure influenced others. The colliers of Davis's colliery have struck for an advance at Abernant, and several petty pieces of mischief have been perpetrated. Mr. Fothergill, the owner of Abernant Works, is a gentleman much respected by those who can appreciate the generosity and kindness that has already distinguished him. Through his influence whole villages have sprung up; and, though generally thought a strict master, there are few, even amongst those who now meditate a disturbance, but who consider him a good and kind employer.—*Cambrian.*

THE COLLIERIES—VIOLENT RESCUE BY PITMEN.—The pitmen of several collieries in the counties of Durham and Northumberland are at present on strike, and some disturbances of the public peace have occurred. On the night of the 18th inst. two policemen apprehended Francis Smith, a delegate from Leadgate Colliery, as he was returning home by coach from attending a delegate meeting. They placed him in a gig, and were proceeding to Shotley Bridge, when they were met by a large body of the pitmen belonging to the neighbourhood, who had heard that their delegate had been captured. They demanded his instant liberation, and proceed to wreak summary vengeance on one of the policemen who was employed by the owners of the colliery. His name is John Connell. He received some very severe injuries, and is now lying in a very precarious state. The other (Sergeant Baxter) was a county policeman. He met with no personal violence, but was compelled to give up his prisoner. Warrants were issued for the apprehension of various parties implicated, and upwards of 20 persons taken into custody.—*Sunderland Herald.*

DISTURBANCES AT HETTON.—We regret to learn that a riot took place among the pitmen at Hetton on Thursday. A number of special constables were sworn in, and the magistrates found it necessary to repair to the spot.—*Sunderland Herald.*

MEETINGS DURING THE ENSUING WEEK.

MONDAY......Tottenham and Edmonton Gas-Light Company—London Tavern, Three.
TUESDAY.....Cwm Erfin Mining Company—office, at One.
THURSDAY....Westminster Fire Office Company—offices, at Twelve.

LEAD ORES

Ticketings at the King's Head Hotel, Holywell, Oct. 25.

Mines.	Tons.	Price.	Purchasers.	
Pantymwyn (Mold Mines)	50	£ 9 18 0	Walker, Parker, & Co.	495.–
Pen-yr-henblas	40	10 5 0	Mather & Co.	410.–
ditto	40	10 5 6	Newton, Keates, & Co.	411.–
Westminster	35	9 3 6	ditto	321.2
Jamaica	50	9 18 6	ditto	496.5
Belgraves	25	9 16 0	Walker, Parker, & Co.	245.–
Maesysafn	50	9 16 6	Newton, Keates, & Co.	491.5
Pant Du	3	9 10 6	ditto	28.11
Milwr	66	11 9 0	Walker, Parker, & Co.	755.14
Pantycelyn	35	11 12 6	Newton, Keates, & Co.	406.17
Halkin Hall	6	9 16 0	ditto	58.16
Fronfownog	5	13 3 0	Walker, Parker, & Co.	65.15
Total tons	399.			

Sold at Bagillt, October 20.

Mines.	Tons.	Price.	Purchasers.	
Rhoswyddol	20	£ 9 7 0	Newton, Keates, & Co.	187.–
Dyfngwm	7½	9 10 0	Walker, Parker, & Co.	70.15
Total tons	27½.			

Sold at Aberystwith, October 22.

Mines.	Tons.	Price.	Purchasers.	
Goginan	15	£14 14 0	Sims, Williams, & Co.	220.10
ditto	15	14 14 0	Walker, Parker, & Co.	220.10
ditto	30	14 16 0	ditto	444.–
ditto	30	14 16 0	Sims, Williams, & Co.	444.–
Frongoch	100	10 1 0	Panther Smelting Co.	1005.–
Nanteos	30	9 10 6	Sims, Williams, & Co.	285.15

Total tons, 220.—21 cwts. to the ton.

Sold in London.

Mines.	Tons.	Price.	Purchasers.	
Wheal Adams	45	£ 8 12 6	Sims & Co.	388.2

Sold at Liskeard.

Mines.	Tons.	Price.	Purchasers.	
Herodsfoot	88	£12 4 0	Walker, Parker, & Co.	1073.12
Wheal Mary Ann	66	16 8 6	Tamar Smelting Co.	1084.1

BLACK TIN

Mines.	Tons.	Price per Ton.	Purchasers.
Polberrou	39	£39 7 6	Daubuz; Williams; Enthoven; and Bistoe Co.
ditto	1½	32 0 0	Calenick Smelting Co.
West Wh. Jewel	7	42 5 0	ditto
ditto	6	41 0 0	Williams and Co.
ditto	1	43 10 0	Calenick Smelting Co.

COPPER ORES.

Sampled Oct. 10, and Sold at Lenderyou's Hotel, Truro, Oct. 25.

Mines.	Tons.	Price.
United Mines	109	£3 12 6
ditto	104	1 9 6
ditto	97	3 5 0
ditto	92	3 5 0
ditto	91	3 9 6
ditto	90	3 1 0
ditto	80	7 3 0
ditto	79	4 1 6
ditto	75	3 2 0
ditto	73	3 6 0
ditto	68	3 13 6
ditto	61	3 2 0
ditto	60	3 1 6
ditto	59	1 16 0
ditto	54	6 16 6
ditto	50	3 13 0
ditto	40	4 5 6
Wh. Comfort	110	2 6 6
ditto	86	2 10 6
ditto	83	3 0 6
ditto	67	1 8 6

Mines.	Tons.	Price.
Par Consols	95	£5 19 6
ditto	92	7 12 0
ditto	58	2 0 0
ditto	55	5 4 6
South Caradon	79	8 4 6
ditto	66	5 11 0
ditto	54	7 9 0
ditto	19	5 9 0
Tresavean	80	3 2 6
ditto	68	3 16 0
Treleigh Consols	51	3 14 0
ditto	40	2 17 6
ditto	15	2 6 6
ditto	16	6 16 6
W. Fowey Consols	98	6 13 0
West Trethellan	57	3 14 6
West Wh. Jewel	51	4 6 0
Prideaux Wood	35	3 1 0
Wh. Prudence	32	2 9 0
Creeg Braws	24	4 5 0

TOTAL PRODUCE.

United Mines	1282	£4572 11 6	West Fowey Cons.	98	£651 14 0
Wh. Comfort	346	819 9 0	West Trethellan	57	212 6 6
Par Consols	300	1670 4 0	West Wh. Jewel	51	219 6 0
South Caradon	218	1521 18 6	Prideaux Wood	35	106 15 0
Tresavean	148	508 8 0	Wh. Prudence	32	78 8 0
Treleigh Consols	122	443 5 6	Creeg Braws	24	102 0 0

Average Standard.........£110 8 0 | Average Produce.................. 6½
Average Price per ton.................. £4 0 6
Quantity of Ore ....2713 tons | Quantity of Fine Copper, 166 tons 7 cwts.
Amount of Money..................£10,906 6 0
LAST SALE.—Average Standard.......£ 98 1 0.—Average Produce....... 9½
Standard of corresponding sale last month, 106*l.* 10s.—Produce, 7⅞.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	170	£648 3 9
Vivian and Sons	132	432 11 6
Freeman and Co.	335	1378 5 0
Grenfell and Sons	764	2961 7 0
Crown Company	49	329 17 0
Sims, Willyams, and Co.	343	1255 13 6
Williams, Foster, and Co.	803	3139 4 0
Schneider and Co.	177	762 4 3
Total tons	2713	£10,906 6 0

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—North Roskear 860—Wheal Seton 610—North Pool 600—Consolidated Mines 564—Tincroft 455—Fowey Consols 288—South Wheal Basset 192—South Wheal Frances 153—Wheal Henry 98—South Roskear 84—Wheal Clifford 43—Wheal Union 7—Pembroke 5—Wheal Nancy 4—Todd's Regulus 2.—Total, 3965 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 766—Tywarnhayle 397—Par Consols 254—Levant 215—West Wheal Treasury 179—West Wheal Buller 151—Wheal Agar 131—Wheal Tremayne 124—Wheal Mary 102—South Wheal Fortune 66—Alfred Consols 60—Wheal Vyvyan 49—Tregollan 23—Wheal Rose 19—Lewis Mines 18—Treffry's regulus 11—Wheal Venture 10—Wheal Fortune 2.—Total quantity of ore to be sold, 2577 tons.

COPPER ORES

At SWANSEA, for sale Nov. 1.—Cobre 73, ditto 71, ditto 68, ditto 67, ditto 64, ditto 61, ditto 50, ditto 100, ditto 79, ditto 65, ditto 50, ditto 42, ditto 8.—Berehaven 123, ditto 121, ditto 104, ditto 100.—Burra Burra 62, ditto 57, ditto 50, ditto 66, ditto 47, ditto 39, ditto 31.—London slag 12.—Total quantity of ore to be sold, 1610 tons.

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"A Clothier" (Leeds).—There are great quantities of fuller's-earth found about Nutfield, Reigate and Blechingley, to the south of the Downs, but of inferior quality, near Sutton and Croydon, to the north of them. The most considerable pits are near Nutfield, between which place and Reigate it lies so near the surface as to be turned up by the wheels of the waggons. It is not known how long this earth has been wrought in Surrey; the oldest pit now wrought is said to have lasted between 70 and 80 years, but is fast wearing out. The seam of fuller's-earth dips in different directions. There are two kinds of it, the blue and the yellow; the former on the eastern side of the pit, between Redhill and Nutfield, is frequently within a yard of the surface, being covered merely with the soil, a tough, wet, clayey loam. A few yards to the west, the blue kind appears, with an irony sandstone, of nearly two yards in thickness, between it and the soil. The blue earth in this pit is nearly 16 feet deep. In some places the yellow kind is found lying on the blue. There does not appear to be any regularity, either in the position or inclination of the strata where the fuller's-earth is found, nor any mark by which its presence could be detected; it seems rather thrown in patches, than in any continued or regular vein. In the midst of the fuller's-earth are found large pieces of stone of a yellow colour, translucent, and remarkably heavy, which have been found to be sulphate of barytes, encrusted with quartzose crystals. These are carefully removed from the fuller's-earth, as the workmen say they often spoil many tons of it which lies about them. There is also found with the yellow fuller's-earth a dark brown crust, which the workmen consider also as injurious. In Surrey the price of fuller's-earth seems to have varied but little: in 1730 the price at the pit was 6s. a sack, and 6s. per load, or ton. In 1744 it was nearly the same. It is carried from the pits on tram-roads to Westham, along which it is taken to the banks of the Thames, where it is sold at the different wharves. It is thence shipped off either to the north or west of England. A considerable quantity is also taken down into Wiltshire by the waggoners, especially when they have not a full load.

"An Enquirer" (Brighton).—The province of Galicia is said formerly to have been celebrated for rich mines of gold and silver: its metallic productions at present are confined to lead, copper, and tin. Between Corunna and Betanzos there are quarries of jasper and white marble, and in other places there are found marcassite, vitriol, and sulphur. There are many hot springs in the country. One part of the town of Orense, in consequence of the number of these thermal waters, which warm the air by their vapours, enjoys all the mildness of spring, while the opposite part is experiencing all the rigours of winter.

"T. B." (Newington Butts).—Window glass is composed of—Soapboilers' waste 6 bushels, kelp 3 ditto, sand 4 ditto. When these materials have been calcined for from 20 to 30 hours, they are removed with iron shovels, while red-hot, to the melting furnace, where the pots are filled with it. By exposure to the heat 12 or 15 hours, the whole is reduced to a fluid state. It is then taken out upon tubes, and blown into globes of nearly a foot in diameter. These globes being carried to the mouth of the oven, a longitudinal and nearly rectilineal crack is produced by touching it with cold iron, dipped in water. The globe is then opened on a smooth iron plate at the mouth of the furnace, and then forms a circular sheet of thin transparent window glass.

Andrew Hutchinson (Leith).—The Dutch manufacture a false gold-leaf, which is made of brass, covered with gold. The brass is reduced to a fine thin ribband by laminating, in the same manner as the gold. The ribband is then gilded by the wash gilding process, and afterwards cut up into pieces, which are beat out into leaves by the same means that are used for gold beating, but the extension is not carried so far, because there is less inducement to make the leaves thin. It is difficult to distinguish this from true gold when new, but it very soon tarnishes, and wholly loses its colour, which renders it unfit for any other kinds of gilding than those which are to be varnished over.

"T. C. S." (Baker-street).—The largest kinds of gongs are manufactured in the interior of China, the smaller at Canton. The metal of which they are composed is brittle and very elastic, and has a granular texture. Dr. Wollaston found it to be quite malleable at a temperature below that of red heat. Klaproth states, that it is composed of 78 parts of copper and 22 of tin.

Edward Harborough (Daventry).—The first wooden railway was employed at Newcastle, in 1680, for transporting coals from the pits to the River Tyne, upon which duty, even at that time, there were employed from 400 to 500 carts. Slips of ground, of the requisite breadth for the railway, were marked out between the coal-pits and the river, and were either leased by the coal owners, or purchased of the different proprietors whose ground the proposed line of road intersected in its course. To obtain the most easy and regular descent, this line was varied in its direction, to meet the inequalities of the ground; or where these inequalities were inconsiderable, it was carried straight forward, and the regular slope made by embankments and cutting. The ground being then smoothed and levelled, large logs of wood, called sleepers, cut in equal lengths to the breadth of the road, were laid across it, and firmly bedded into it at short distances, to sustain and hold fast the rails, or slips of wood on which the waggon wheels were intended to run. These rails were made of beech, and were laid end to end, so as to form two continued lines of rails, or wooden ridges, running parallel to each other, along each side of the road, crossing the large logs on each side of their extremities, on which they rested as on so many foundations. The waggons were of the usual construction, but of a larger size, so as to contain several tons of coals, and set upon low wheels—the smoothness of the way rendering wheels of the ordinary size unnecessary. Where any steep declivity occurred on the road, this was called a run, or inclined plane, and on it the descent was retarded and regulated by a species of brake, or crooked lever, termed a convoy, attached to the waggon, and managed by the driver. The banks of the Tyne, near Newcastle, on each side are remarkably steep, but, instead of forming inclined planes on them, the railway was continued on a wooden stage, raised to the same height as the top bank of the river, and carried forward until it came perpendicularly over the river side, where a wooden platform, termed a staith, was erected, for the convenience of delivering the coals—the waggons being emptied into a trough, or spout, down which the coals descended, either directly into the ships or the store below.

George Gale (Chelsea).—Metal bridges are the exclusive invention of British artists. The first bridge of cast iron ever erected was that over the Severn, about two miles below Colebrook Dale, between the villages of Broseley and Madeley, in Shropshire. It is composed of five ribs, forming the segment of a circle. Its cord line is 100 feet in length, and its versed sine 45 feet, making its curve almost a semi-circle. The height of the springing of the arch from low-water mark is about 10 feet, which makes the entire height from the vertex of the soffit 55 feet. On these arched ribs the road-way is formed, by other pieces of cast-iron and plates which carry the road. This parent of the iron bridge system was cast at the Colebrook Dale founderies, by Mr. Abraham Darby, and erected in 1777.

"A Constant Reader" (Redruth).—The most ancient mine of quicksilver known in the world, is that of Almaden, in Spain. According to Pliny, it was wrought 500 years before the commencement of the common era; and in his time 10,000 lbs. of cinnabar were transported to Rome for the purpose of being employed in painting. This celebrated mine, or rather cluster of mines, is situated in a branch of the Sierra Morena, upon the confines of Andalusia, about 15 leagues to the north of Seville. The hill which contains it is about 1000 fathoms in length, 600 in breadth, and 120 in height. It is composed of the same materials as the neighbouring mountains, which consist of sandstone, and its surface exhibits two inclined planes, which uniting at the summit form a crest of rock that is entirely bare, and spotted with sulphuret of mercury.

"Antiquarian" (Westminster).—The original patent granted by Henry VI. to Sir Edmund de Trafford and Sir Thomas de Ashton, is among the records preserved in the Tower. It is in Latin, but is thus translated by Dr. Fuller:—"The king, to all unto whom, &c., greeting. Know ye, that whereas our beloved and loyal Edmund de Trafford, knight, and Thomas Ashton, knight, have by a certain petition shown unto us, that although they were willing, by the art or science of philosophy, to work upon certain metals, to translate imperfect metals from their own kind, and then to transubstantiate them by the said art or science, as they say, into perfect gold or silver, unto all manner of proofs to be expected and endured as any gold or silver growing in any mine, notwithstanding certain persons, ill-willing and maligning them, conceive them to work by unlawful art, and so many hinder and disturb them in the trial of the said art and science. We, considering the premises, and willing to know the conclusion of the said working or science, of our special grace have granted and given leave to the said Edmund and Thomas, and to their servants, that they may work and try the aforesaid art and science lawfully and freely, without any hinderance of ours, or of our officers, whatsoever, any statute, act, ordinance, or provision made, or provided to be made, ordained, or provided, to the contrary notwithstanding. In witness whereof the king, at Westminster, the 7th day of April, in the 24th year of his reign."

"F. M." (Pulteney-street).—Glass buttons are composed of glass variously coloured, in imitation of opal, topaz, and other stones. The method of forming is as follows:—The glass is kept in a state of fusion, and the button nipped out of it, while in a plastic state, by a pair of iron moulds, like those used for casting pistol shot, adapted to the intended form of the button, the shank being previously inserted into the mould, so as to become imbedded in it when the glass is cold.

"An Enquirer" (Bath).—We have no means of ascertaining the quantity of arms purchased annually by the Government. During the late war, from 1803 to 1816, there was delivered from the Tower 3,227,716 muskets, 118,103 carbines, 27,895 rifles, and 203,256 pistols. It is stated that about 1000 muskets are at present daily manufactured in Birmingham.

"B. S." (Bow).—The paddles used for claying reverberatory furnaces are about 21 feet in length: 4 feet towards the head is formed of 1¼-inch round iron; 16 feet towards the handle of 1¼-inch square. The head is eleven inches long and 8 inches broad.

"Miner" (Camborne).—Kupferschaum contains oxide of copper, arsenic acid, water, and carbonate of lime. The primary form is a right rhombic prism; it occurs in rhomboidal plates, which present perfect cleavage, parallel to the faces of the rhomb. It is generally found in small aggregated and diverging fibrous groups, of a pale apple-green, or verdigris-green, colour, inclining to sky-blue, and translucent. Before the blowpipe, it fuses readily in the platina forceps into a pebbly copper red scoria. Upon charcoal it intermixes, disingages an argillaceous odour, and melts into a green scoria, containing numerous grains of metallic copper. With borax it forms a green limpid glass, and with soda is reduced. It is found disposed in the cavities of calamine, associated with barytes, calc. spar, or quartz, in the Bannat, at Libethen in Hungary, Nerzschinsk in Siberia, Schwartz in the Tyrol, Saalfeld in Thuringia, and Matlock in Derbyshire.

"A Sufferer" (Leeds).—The meeting of the Christiania Gas Company was fixed for the 23d inst. Our correspondent will, no doubt, obtain full information from his agent there. It is not customary to publish reports of meetings in the Norwegian Journals.

Edmund Thompson (Nantwich).—Mr. Hunt states, of all substances hitherto examined, the following give the freest passage to the chemical rays:—1. Air and other colourless gazies, aqueous vapour, water, alcohol, and ether. Then follow—2. Oil of vitriol, nitric acid, nitre, carbonate of soda, double refracting spar, English plate glass, aqueous hydrocyanic acid, and camphor.—3. The vapours of iodine and hyponitric acid, alum, red fluor-spar, crown glass, flint glass, French and German plate glass, mica, and gum arabic.—4. Other kinds of plate, flint, and crown glass, green fluor-spar, creosote, oils of aniseed, caraway, peppermint, lavender, rosemary, savine, violet, Canada balsam, and amber. Least pervious to the chemical rays, are green bottle glass, chlorine gas, oxide of ditto, vapour of bromine, liquid bromine, and glass slightly smoked.

H. Bailey (Lymington).—The East India Company was first incorporated by Queen Elizabeth, A.D. 1600, under the title of "The London Company of Merchants trading to the East Indies for the purpose of extending the commerce and navigation of their country in the seas, and among the islands and continents east of the Cape of Good Hope." They enjoyed the monopoly precisely 100 years, at the expiration of which period a second company arose, which, like the first, obtained a charter, and between which and the old company a rivalry, at once mischievous to themselves and, as was then believed, hurtful to the mother country, arose. William III., who incorporated the latter body, interfered to put a stop to this state of things. The two firms were persuaded to come to an understanding with one another, and a new charter raised them into the corporate body which still exists as "The United Company of Merchants of England trading to the East Indies."

ROTHWELL'S PATENT LIGHTERS FOR LIGHTING FIRES.—SIR: Will you be kind enough to inform me what is claimed as patent right by Mr. Rothwell; and, if any patent is in existence, when taken out? I am about to manufacture an article of that description, and should not wish to infringe on any patent right.—A. S.: *Plymouth, Oct. 16.* [We presume the patent referred to is that granted on the 5th Nov., 1842, to John Rothwell, of Great Bolton, Lancashire, grocer, for "a certain composition and preparation, to promote the ignition and combustion of coke, coal, and other combustible substances in stoves, furnaces, and grates." We are not acquainted with the claims of this patentee; our correspondent should apply to Mr. Campin, Patent-office, 120, Strand, who will readily supply any information.]

ST. JOHN DEL REY MINING COMPANY.—We cannot insert any letters referring to the affairs of this company without the names of the writers being attached—we consider the course but fair towards both the directors and Mr. Routh. We have received numerous communications during the week, some even without authentication to us.

"J. R." (Abercarn), on Mr. Colwell's Method of Ventilation, shall appear in our next.

"An Old Subscriber."—The Compendium of British Mining Industry is out of print. It can only be seen in the columns of our Journal the latter part of last, and the commencement of the present year. The notices which appeared there were revised and amended by Mr. Watson.

"An Enquirer" (Neath).—The market value of lead ore is always calculated by assay—that also determines the quantity of silver contained in the ton of lead. No lead ore is sold in London; samples are sent to the offices there, and offers made—if accepted, the lead is sold on the mine.

G. Levin (Bury-street).—The Marquis of Bredalbane has commenced working his copper mines in Perthshire. A brief notice of them will be found in another column.

*** We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal.

*** It is particularly requested that all communications may be addressed—

TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, OCTOBER 27, 1849.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

The general tendency of both mining produce and mining shares towards better prices, which has now continued for some weeks, is a circumstance very favourable to the holders of this species of property. The tone and aspect of business at large, and throughout the country, is such as to lead us to the belief that buyers will become more numerous, and the class of sellers become more charey at parting with what they hold, except at an improved marketable value. But, as a rule, we advocate short holdings and quick returns; and we see no occasion to depart from that principle of business, notwithstanding the somewhat greater advantages which the mining market offers just at this moment, to those who sell over those who buy. At a season of this kind, and characterised by that fair degree of mining prosperity which we have the happiness at present to enjoy, the working classes being, on the whole, well employed, are in a state of gratifying peace and contentment. We hope this condition of things will not be at all transient in its duration, but that, by economy and temperance in good times, the men will fortify and prepare themselves for times less remunerative and auspicious. From all causes, it would appear that the general business of the country is proceeding in a sound and prosperous course, and especially that the mining industry of the country is being prosecuted with increased diligence and success, wherever there is a clear and vigorous intention to make the most of our opportunities, and our natural gifts.

At this period, while, both in railways and mines, the times are rife with committees of investigation and amalgamation, in some cases presenting extensive pictures of defalcations, and in others gross mismanagement, showing such complicated difficulties, that it would seem almost impossible for the most undeviating perseverance and untiring energy to extricate them from the "Slough of Despond" in which they have been involved, watching attentively, as we have done, the progress of these committees in their ungrateful task, whenever we see that they have been enabled to combat the difficulties with which they have been surrounded, to overcome the obstacles which they have encountered from the various complexity of interests they have had to meet with, it is with a feeling of pleasure we hail the successful issue of their efforts. In another column will be found a brief report of the suggestions of the committee appointed at a general meeting of the GOVERNOR AND COMPANY OF COPPER MINERS, held on the 4th of April last. When that committee was first appointed, we cordially approved of it; for in it we saw the probable means of resuscitating this ancient and honourable company—a company chartered in the reign of WILLIAM and MARY, and which, through good and evil report, had sustained itself to the present day. However disastrous the stoppage of such a company would have been to the individuals who had embarked their capital in it, we consider this but trifling, compared to the immense amount of misery it would have entailed on those who directly and indirectly derived their subsistence from it. The property of this company has in general been underrated, and we shall, therefore, give a short summary of it. Held under long leases were three collieries—the Cwm Avon, Oakwood and Argoed, and the Bryn—all situate in the black band; the five iron furnaces were capable of producing 40,000 tons of pig-iron annually. The bar and rail mills are constructed to make from 30,000 to 35,000 tons of finished railway bars, independent of the bars required for the manufacture of tin plates. The copper works can produce 3000 tons of refined copper; to these are attached rolling mills, &c. The tin-plate works making 50,000 boxes of tin per annum, with chemical works for the production of the materials necessary for their manufacture. Brick mills, turning out five millions of bricks annually. If to these are added the founderies, houses, cottages, &c., belonging to the company, some idea may be formed of its intrinsic value, and the distress it would have entailed on the labouring classes deprived of employment by the suspension of operations.

The suggestions of the committee, if acted upon, and we understand that but little doubt exists they will be so, will be the means, though at some sacrifice, to restore the property to the original owners, and enable them, under the new system, to prosecute their workings, so as to be remunerative to all parties interested. The Bank of England, who are the mortgagees, appear willing to forego their claim on easy terms. We do not wish to investigate in what manner they obtained their mortgage, nor how the company arrived at their present difficulties. There is, however, a curious analogy in its history. It was near dissolution immediately after the South Sea bubble, and it has not been far from it after the railway bubble; from the former it recovered, and became again a flourishing company, and we trust it will now again experience the same good fortune. Much mismanagement and illegal traffic, to say the least, has occurred, which we will rather believe has arisen from the spirit of the age than the desire of individuals entrusted with the government of the company nefariously to do wrong. From the report of the committee, the fact is evident that, had not Mr. LORD thrown himself into the breach, the property would, ere this, have passed from them. Much praise is due to this gentleman for his energetic and decisive action; but this would have been futile, unless followed up by the conciliating spirit of the committee of adjudication. There are, we understand, still some dissentients to the equitable propositions put forward by the committee; to them we would say, that factious opposition can only embarrass their movements, without retarding them in that open and fair course they have determined to pursue. Great concessions must be made by all parties—a unanimity of feeling must be shown, in order to ensure success.

In the event of a reconstruction, the committee *recommend the appointment of auditors by the shareholders, as a sine qua non, as to the want of them the present position of the company may, in a great measure, be traced.* It is a melancholy fact for human nature, that in late transactions the principal errors have arisen from the want of a proper and responsible audit. Poor human nature is but frail at the best of times; and, however, high sounding the names may be who are at the head of directions, we think it is necessary, to avoid suspicion, that an independent audit should be established. Had such been the case, the events leading to late disclosures could have never occurred, and commerce, our most vital source of dependence, would not have been impeded, as it now is, by the discovery of arch jobbing, and its concomitants—fraud and dissimulation. The committee wisely avoid all disputes and recrimination, and we are willing to second them with our efforts, convinced, as they are, that the past cannot be remedied; we hope, however, that the lesson thus dearly bought will not be lost upon the interests concerned, nor forgotten in the future annals of the company; after 1720 they were on the eve of dissolution; after 1845 they were on the point of expiring; from both these premature evils they have been rescued; and we trust that this company, venerable for its antiquity, and honourable for its respectability, will not alone last for another century, but "for all time."

The great north-eastern part of the kingdom, Liverpool, whose name and fame throughout the world is second only to that of the great metropolitan port itself, has risen to its present rank and station by the ardour of its resident merchants, and the sustained industry of its general population. Manchester, though directing its energies into another sphere, and seeking wealth and reputation in another field of activity, has laid, nevertheless, the foundation of its fortunes in the same principles of persevering industry—principles, in fact, by which all great commercial results have been wrought out in any country, or in any age. It is less genius, or situation, or opportunity, or time, that have made prosperous cities prosperous, or individual men illustrious, than the use or appreciation of such means—great or small, few or numerous—which are, by an impartial Providence, in a greater measure or a less, granted to all persons and to all places. Among those particular spots, which have given evidence of the practical wisdom which knows its opportunities and diligently uses them, we have much pleasure in mentioning (which was done much more at large in last week's *Mining Journal*) the borough of Newport, in Monmouthshire. Reposing on the surface of a rich iron district, it has of late years much increased in wealth and population, by its successful establishment and working of numerous iron-foundries, in which steam-engines, machinery, and railway fittings, in that most useful and most essential of all the metals, are manufactured. This is the particular course of exertion pointed out to our Newport friends by Nature and common sense, and in which their already-realised success is but an earnest of that which awaits them.

Swansea, another thriving town and port of the principality, is also in course of using her peculiar facilities and connection for the greater wealth and prosperity of her increasing population. It contains, we believe, the greatest number of furnaces, for smelting the ores of the great metals, in the United Kingdom or in the world; and the highly efficient manner in which that kind of work is done at Swansea, and her abundant access to the best fuel, is likely to give her yet further reputation and success in this branch of British industry. We should hardly have enumerated these few particulars, or have made these few remarks, but that our vivacious contemporary, the *Standard*, has ridden at the head of one of his characteristic forays into the latter township, and not withholding his hand, has cut away right and left at some of the best men and highest characters in the place. If he has done this to ease his mind of some bursting humour, or to skin over some editorial wounds not otherwise medicineable, we should in some measure excuse his chapter of vituperation; but if, which is too probable and too apparent, mischief only is meant, and these gentlemenare to be spoken disparageingly of, because the *Standard* has the power so to speak, we shall take an opportunity of showing that in all questions, social, commercial, and political, their character stands as high for purity and impartiality as that of their voluble censurer.

The meeting of the ASTURIAN MINING COMPANY, of which we this day give the report, requires some observation on our part for the benefit of the absent shareholders. It certainly was the best constituted meeting of that company we have ever attended, and comprised the great majority of the independent proprietors. We understand that, previously to the meeting, Mr. MOORE calculated on the support of about 4000 shares, through proxies and the influence of some of the directors; and, therefore, excepting the solitary opponent who presented himself at the meeting, the committee of investigation may justly hope to obtain, as they merit it, the universal co-operation of the independent shareholders. This is indeed a very satisfactory result, and, we will confess, very different from what we expected. The measure to be submitted was complicated, the patience of the shareholders exhausted, and the directors apparently obnoxious to the charge of mismanagement. A call had been made, hand in hand with the proposition for a reconstitution of the company; and the directors being primarily responsible for the debts, it was fairly within the bounds of possibility that the unregistered shareholders, holding (we believe) nearly nine-tenths of the shares, should have sought to throw the creditors upon the directors and registered proprietors. However, we are glad that our anticipations were incorrect; it does great credit to the individual holders of that class of stock, and proves the soundness of the constituency of the company, whatever may have been the difficulties or defects which have marked its management as incompetent.

The proposition, we say, seemed, on first perusal, much too complicated; but, with the explanation of its author, this difficulty vanished. The creation of different classes of stock we must regard as indispensable, when we consider that the condition on which the committee of investigation recommended a call was, that the payments of it should be treated as a debt; and we think it an an improvement to offer, as a further inducement, 5*l.* of the preference stock for every 2*l.* of the call paid. It gives, as has been said, a special lien on the property of the company, in which some 250,000*l.* have been invested, and is, therefore, a security for the advance.

The only other point for consideration is, whether the shareholders should agree to join a new joint-stock company in this country. It is our opinion that it is only a just precaution to do so; and, in the words of one of the speakers, to exchange a perplexing uncertainty for the certainty of limited responsibility. In considering this question, we must necessarily advert to the sayings of the single dissentient, who objected to the proceedings. It is quite evident he came primed and loaded for a purpose. Charged with technicalities, he was furnished with a copy of the statutes, which, perhaps, none other of the shareholders have had the good fortune to obtain from the jealous custody of the directors. Too late to protest against the taking of the chair, he gave the meeting the benefit of his intentions to "protest, protest," and endeavoured to create dissension, where there should be unanimity of purpose. But the cold reception the meeting gave to his opposition, should assure the parties represented by it, that all attempts to obstruct the committee of investigation in their efforts to work out the salvation of the company, will find no favour from the independent shareholders; that they cannot, and ought not, to succeed in procrastinating measures by which alone the interests of the company can be supported; and that they must end in the public condemnation of such factious opposition.

The objections raised by Mr. WEBB were two; the first, that the shareholders who were not registered should resist the formation of a new company, because he pronounced them not liable, believing the case submitted to the eminent counsel who declared the contrary, was not truly stated. Assuredly he might before the meeting have ascertained in what respect the case was false. Sufficient opportunity, as Mr. MOORE remarked, was given for him, or any other shareholder, to satisfy himself on all points. Is it not then a great presumption, and contrary to right reason, for any one to stand up, and make such a sweeping imputation against the committee of being guilty of a gross dereliction of duty, in misstating the case for counsel, a fraud so easily detected as to deter the most hardy from its perpetration? The other objection is just as valid. The Joint Stock Companies' Act—that which was conceded as a boon to non-parliamentary associations, limiting their responsibility within just bounds—was held up as some great terror is employed to frighten children. But men of business are not children; and the shareholders, as well as ourselves, can see that if the conditions defined by the proposal, of which we gave the outline in our Number of the 20th inst., be fairly embodied by the conveyancer in the new Deed of Settlement, the shareholders will have no just grounds to disquiet themselves respecting future calls or future liabilities. Some vague notion of *leasing* the mines and works in the present company seems to have been the ruling motive of the objection; and, no doubt, there are many who would feel interested to obtain a lease of such a valuable property. However, this motive should not have misled any one to forget that the company is in a state of liquidation in Spain, and no new operation whatever can be undertaken. The property must, one way or another, be brought to the hammer to close the old concern; and whether it be by

a new anonymous company, reconstituted under the decree of the 26th June last, or by a joint stock company in this country, the transfer must be perfected in new hands before any arrangement can be made for leasing. But *leasing*, in the event of not being able to do better, is avowedly one of the objects of the proposal of the committee, a fact which the speaker, in his haste, seems to have overlooked. Now, before we listen to such objections, we should ascertain what could be the motives or influence which could induce the committee to misguide those who had elected them. Are not the members shareholders?—are they not as deeply interested as any others to lay fair statements before counsel, and to carry into full effect those provisions necessary to protect all shareholders alike from the reckless improvidence from which it is alleged the interest of the company has suffered?—have they anything to cover, or have they any emolument to derive from suppression, or misrepresentation? At first, it was to be feared that the zeal of the committee would master their discretion, and we, therefore, raised our voice in caution against confiding implicitly in their decision. Now, however, it is plain that their first and main design is to grapple boldly with the danger that threatens destruction; and their mode of averting it seems the best available, under the extraordinary circumstances of the case. Nevertheless, it is most unwise to abandon altogether the management of affairs to any committee, who, if composed of SOLONS, are still men of fallible judgments. The great evil which of old affected every joint-stock proprietary was the surrendering to others of their unalienable right, as partners jointly responsible, to inspect and correct the proceedings of the governing power. Every shareholder should have the exercise of this right, without the least reserve, at all proper times, and in all companies. If this principle had been heretofore more extensively recognised, our understandings would not now be outraged by the enormous defalcations and impudent extortions now brought to light, and which seem to have been inseparable from the joint-stock system.

Let us, therefore, advise the shareholders, individually and collectively, to look after their own concerns; to require their delegates in the committee to give prominent publicity to the new form of constitution; and where there is the slightest doubt to call on the committee for explanation, and, if necessary, alteration, as to any objectionable details. Further animadversion would at present be premature; for till we see what may be the provisions of the new deed, it is impossible to anticipate their operation. We conclude, therefore, with this friendly caution to the committee, that they should persevere impartially and energetically in their course, relying on the support of the independent shareholders, and let them take care that no hasty or improper compromise be made with any interest to deprecate opposition; for although the existence of this company is of small account in the ocean of vaster projects, the question here is one of *public principle*, for which reason we have so closely followed the proceedings; and public opinion will be brought to bear in support of every rightful disposition, or in condemnation of any conduct which may be found to violate that principle, which proves, in the exposure of a sucession of the rankest friends in other companies, that "honesty is the best policy."

THE COMPANY OF COPPER MINERS IN ENGLAND.

The Committee of Adjudication appointed, on the 4th April last, to resuscitate this important company anticipate shortly a favourable termination to the laborious and difficult task in which they have been engaged. In the proposals put forth by the committee they have stated, that the mortgagees are willing to throw off 150,000*l.* from their mortgage, and reconvey on the whole of the residue of their debt—viz.: 120,000*l.*, and interest thereon, being paid them; a much less sum, however, it is believed will be taken. A portion of this latter sum has already been recovered out of the property; and, it is calculated, less than 95,000*l.* remains due; so that about that sum would purchase the whole of the property. To redeem this, and carry out the operations to the fullest extent for which the works were constructed, it is calculated 250,000*l.* would be sufficient. At present, the mortgagees, while they do but little in the copper trade, have about 155,000*l.* engaged in the undertaking, which may thus be calculated:—working stock, 80,000*l.*; convertible stock, 75,800*l.*=155,800*l.* On being paid 95,000*l.*, the mortgagees would pass over the 80,000*l.*, and about 30,000*l.* (part of the 75,800*l.*), taking to themselves and realising the manufactured stocks, &c. The 250,000*l.* raised would be thus employed:—paid mortgages, 95,000*l.*; necessary stocks, in addition to that left by mortgagees, and floating capital, 55,000*l.*; additional capital for the copper trade, 100,000*l.*=250,000*l.* The capital raised is proposed to be at a preference rate of dividend, and that all parties now interested in the company should at once unite in a vigorous effort to obtain possession of this valuable property under the charter. That the debenture and share holders should come in, on terms to be agreed upon between themselves, reducing their claims to such an extent that the amount of them, in the whole, should not exceed 250,000*l.*, making the total capital 500,000*l.*, no dividend being payable on the latter 250,000*l.* till 5 per per cent. be paid to the contributors of the 250,000*l.* preference stock; and further till 8*l.* per cent. be paid, in addition to the 5*l.* per cent., to be put in a reserved or guarantee fund, in order that, under adverse circumstances, uniformity of dividend may be made sure.

That after the 5*l.* per cent. had been paid, and the 8*l.* per cent. put to the reserved fund, the old proprietors should receive such a portion of the profits as might be left, to the extent of 5*l.* per cent., the residue (if any) to be carried to the reserved fund, which should be under the control of trustees. In case of winding up the concern within 10 years, by a vote of the majority of proprietors, the 250,000*l.* new capital should be paid off, prior to any payment to the old bond or shareholders. The different interests are proposed to be amalgamated under the following terms:—That the holders of debentures or loan notes receive stock after the rate of 10s. in 1*l.*; the holders of preferential shares at the rate of 5s. in 1*l.*; and the holders of old shares at the rate of 2s. 6d. in 1*l.* The present bond and shareholders have the power, at the end of five years, or any subsequent year, to pay off the contributors of the new capital of 250,000*l.*, at a premium of 10*l.* per cent., to such of the contributors as are unwilling to amalgamate their interests with the present bond and shareholders on equal terms, the reserved or guarantee fund being applicable to the purpose. Until the new contributors are paid off, or an amalgamation take place, the reserved fund would be continued for a period not exceeding 10 years, when all the proprietors, old and new, should stand on an equal footing. The committee believe that if this plan is carried out, it would insure capitalists embarking their money under the protection of the charter, a preference dividend and preference claim on the property, and would enable the present proprietors, whose interest is now jeopardized, to retain it, terminate all litigations, questions of title, and lay, it is believed, the foundation for a remunerative business. A net profit annually of 20,000*l.* would be required to provide the 8*l.* per cent. for the new capital of 250,000*l.*, and 12,500*l.* additional would pay 5*l.* per cent. on the old reduced capital. This the committee anticipate would be obtained from the profits of the copper, tin plate, and coal trades, exclusive of other profits which they have no doubt they will receive from the iron trade.

The present cost of pig-iron at their works ranges from 2*l.* 2s. to 2*l.* 5s. per ton, and No. 2 bar-iron at little over 5*l.* per ton, which will further be reduced when the South Wales Railroad is opened, as by that means limestone will be obtained at a much cheaper rate. A small rise in the present price of iron would make that portion of the property the source of a considerable income. The Chancery suits pending with Mr. Lord have been suspended, and the costs incurred by him are recommended to be paid to an amount not exceeding 550*l.*; Mr. Lord's claim for compensation, for services rendered in defence of the interests of all parties, to be referred to arbitration, the committee conceiving that he is entitled to some consideration, as they feel that, but for his services, the property would have been passed from their possession. The formation of a provisional body is recommended, for the purpose of raising the necessary capital, and the reconstruction of the company, to be comprised of both bond and shareholders. On the reconstruction taking place, they recommend *the appointment of auditors by the shareholders, as a sine qua non, as to the want of them the present position of the company may, in a great measure, be traced.* They refrain from adverting in detail to the probable cause of that position, as they deem it an essential element of future success that all disputes and recriminations should be avoided, and impress on all concerned the necessity for mutual concession and combined efforts, as affording the only prospect or hope of success. Such are the outlines of the plans which have been suggested by the committee, and we are informed that, with few exceptions, they have been responded to by the several interests to whom they are addressed. It is the intention of the company, we believe, to apply in the next session of Parliament for an Act to amend their charter, due notice of which will be advertised in the *London Gazette*, and other journals.

MINING IN SCOTLAND.—In our Journal of the 11th of August, we informed our readers that the Marquis of Bredalbane had engaged a gentleman of scientific attainments to report upon his mineral property. The result of the survey has been, that the noble marquis has commenced exploring three mines. One, an ancient working, situated near Tyndrum; and, from old traditions, reported to be rich in lead containing silver. The others newly discovered are near Tonnadshan, in Corribie, and consist of auriferous galena and copper ores. The copper mine, which was discovered by the marquis himself, is reported to be very kindly, and not an inconsiderable quantity of copper pyrites, yellow copper grey copper, and black copper ores, as well as malachite, have been brought to grass. Assaying furnaces have been erected, and, should the mines give a promise of permanency, which there is every reason to expect, works for reducing the ores will be erected on the spot.

THE FLORA OF THE COAL FORMATION.

No fewer than three hundred species of plants belonging to the coal formation of Great Britain have been enumerated up to the present time; but, although this is the whole number hitherto discovered, it is impossible to say whether it approaches the total amount of the species of even a single period. It need hardly be remarked that a collection, formed of the fragments found in our latest deposits, would not afford the slightest indication of the nature of the general mass of the then existing vegetable world; and as little are these remains to be regarded as those of the more abundant kinds of plant, or even as those of the plants which might have been fancied to be best adapted for fossilization. That specimens of species at present unknown may yet be discovered, in a condition which will enable the botanist to pronounce positively on their character, cannot be doubted; but that they exist in less number than might otherwise be anticipated from the vast extent of a coal-field, may be deduced from the great uniformity of species among the fossil plants which have already been found in the coal formation.

That the vegetation of the coal period, whether we consider it as confined to the range of the coal-field or not, was extremely luxuriant, cannot be denied; the immense masses of the coal, the great predominance of forms perceptible in every coal-field, and the great size to which many of the soft-called plants have attained, clearly show this. A luxuriant vegetation, however, is not a proof of a varied one, for many of our forests at the present day, even large tracts of forests within the tropics, are formed of a few, though abundant species, and in this manner the coal forests might have consisted of sigillarias and lepidodendrons, intermixed with a few ferns, for a small number of the latter, if they were as Proteus-like as some of their relatives of our age, would suffice to include all the known species of the fossil flora. The predominance of ferns over flowering plants is common to many of the tropical islands, and is not limited to the smaller ones, such as St. Helena and the Society Islands. It is also observed in extra-tropical islands, as in New Zealand, where 30 kinds of ferns have been gathered in the space of a few acres, giving the vegetation (which, beyond these, scarcely exhibited a dozen of flowering plants and trees) a very luxuriant appearance. A similar tract in the neighbourhood of Sydney, in about the same latitude, had 100 species of flowering plants, and only two or three ferns.

In the modern period, and more particularly in temperate latitudes, a flora, marked by a predominance of ferns, is almost invariably poor in species of this or other orders. Where one species extends over a large space, like the common fly-fern *(pteris aquilina)* in many parts of England, or the edible fern in Van Diemen's Land, it generally occupies the whole surface of the ground; for, on the one hand, it obstructs the growth of the larger sorts of plants, and, on the other, it chokes the undergrowth of the smaller species of fern. A luxuriant vegetation of many kinds of fern, extending over several degrees of latitude and longitude, indicates, in temperate regions, a uniformity of temperature, and a poverty of flowering plants. A comparison of the vegetation of New Zealand and Van Diemen's Land will render this clear. The latter, an island scarcely 200 miles in length, possesses four times the number of species of plants found in New Zealand, which is 900 miles long. On the other hand, the latter has four times as many species of ferns, which are so equally distributed all over the island, that those which are found at the south end also prevail at the north.

The West Indian and South Sea Islands also present a flora strikingly rich in ferns, and in both cases we find numerous species spread over an immense extent of surface—namely, from the Leeward Islands to Mexico, and from New Zealand to the Society and Sandwich Islands. If we take, on the other hand, the Campos of Brazil, the sandy plains of South Africa, or the somewhat similar plains of Australia, we find there, barren as they might at first sight appear, many kinds of flowering plants, but no ferns. The predominance of ferns in the coal period has long been urged as proof that the climate was then mild, agreeable, and moist; but it has never yet been brought forward as showing the small number of other plants, and the general poverty which characterised the flora of the period. If the present laws of vegetation applied to the time when the fossils bloomed, we must conclude, from the prevalence of the ferns over a great extent of surface, and also of certain kinds of *pecopteris* (related to our *pteris*), and from the striking similarity of the English fossils to those of North America, that the flora of the coal period was deficient in variety.

We must not, however, conclude from the predominance of an order, which, with regard to construction, stands low in the vegetable system, that the vegetation of which it formed a part was in a less advanced state of development than those of succeeding periods. We know too little of the structure of the ferns of that age to be able to decide whether they were more or less perfect than their relatives of the present period, while as regards the *lycopodiaceæ*, we may safely affirm that in form and bulk, as well as complication of structure, they exceeded all existing plants of that order.

WINDING-UP OF JOINT-STOCK COMPANIES.

The following is a list of abortive schemes now being, or about being, wound-up under the provisions of the Joint-Stock Companies' Act:—

Banwen Iron Company.
Nister Dale Iron Company.
Merionethshire Slate Company.
German Mining Company.
Godolphin Mining Company.
Kilbricken Silver-Lead Mining Company.
Wheal Curtis Mining Company.
Wheal Lovel Mining Company.
Rio Doce Company.

British and American Steam Navigation Company.
India and Australia Steam Mail Packet Company.
Margate Steam-Packet Company.
Royal Thames Steam Navigation Company.
St. George's Steam-Packet Company.

Agricultural Cattle Insurance Company.
London and Westminster Life Insurance.
Tontine Life Assurance.
York and London Assurance Company.

Marylebone Bank.
North of England Joint-Stock Banking Company.
Sheffield and Retford Banking Company.

Compressed Air-Engine Company.
Patent Kamptalicon Company.
Universal Salvage Company.
London and Westminster Coal Club.
Isle of Wight Joint-Stock Company.
Liverpool and Manchester Saw-Mills.
Southampton Emigration Company.
Vale of Neath and South Wales Brewery Company,—and the
Wesleyan Newspaper Association.

In connection with the latter, we may add, that a peremptory call of 4*l.* per share has been ordered by the Master in Chancery on the contributors. The newspaper was started in the year 1847, by an individual who sold it to another, by whom it was mortgaged back to the first owner; and both becoming bankrupt, induced several influential and wealthy Wesleyans to purchase the copyright and start the association. The capital was fixed at 4375*l.*, in 3500 shares, of 1*l.* 5s. each, upon which about 3000*l.* was paid. The paper went on for rather less than two years, when, owing to a combination of causes, creditors sued and embarrassments thickened. It is found difficult, from the state of the accounts, to ascertain how much was received and expended; but the assets, as reported by the official manager, do not exceed 60*l.*, while the claims filed with the Master in Chancery amount to some 5000*l.*

AERIAL NAVIGATION TO CALIFORNIA.—Mr. Pennington, an enterprising American, has recently been making some experiments on the great prairies with a flying machine, with which he intends to navigate the air at pleasure. The *Baltimore Sun* "regrets to say that he has not been sufficiently successful to enable him to come back in his own carriage. He is, however, sanguine of fully succeeding eventually in making a voyage to California, or even to Europe, in his car through the air. A large machine of this kind is now building, by Mr. Robjohn. The canvas is all ready, and is about 80 yards in length, and 50 in diameter. It is to be propelled by two oscillating five-horse power engines, which are already provided and secured in the car. They occupy a very small space, and are well made. They are to propel the huge gaseous monster, by fan wheels, we belive. We await in calm contemplation the mighty results of this enterprise. We can say this much about it, that the workmanship will be well executed. The projector has, at least, great courage, and deserves success; in any other department he would attain it."

Turf is used in preference to coal for the railway engines between Limerick and Tipperary.

WEST FLANDERS RAILWAY.—It is expected that the profits of working this line during the past half-year will amount to about 2000*l.*, and allow of a dividend of 1s. 6d. per share, although it is not expected that more than 1s. or 1s. 3d. per share will be divided. This result has been brought about by the exercise of the strictest economy in every department; otherwise it is probable there would have been a loss instead of a profit.

SHREWSBURY AND BIRMINGHAM RAILWAY.—This line is now nearly ready for opening throughout, the chief engineering difficulty presented by the tunnel at Oakengates having been overcome. The two lines of rail are laid between Shrewsbury and Wolverhampton.

THE IRON TRADE IN AMERICA.

The present depressed state of the iron trade in the United States, and the efforts which are being made to induce the Government to afford this branch of native industry some greater protection than it at present obtains, when the contemplated new tariff comes before Congress for discussion, induce us to offer a few particulars which we have collected relative to the iron furnaces in the Western States. From the best data we have been able to obtain, it appears there are in Ohio and Kentucky thirty-three iron furnaces, which yield in the aggregate 56,060 tons of pig metal each year. In addition to these furnaces in Ohio, there are a number in Tennessee and Illinois, which yield a considerable amount of metal, and as the population in the west increases, so does this business steadily advance. Much the largest portion of Ohio and Kentucky metal is disposed of in the Cincinnatti market, and it seldom occurs that the supply is more than adequate to the demand, or that the former is not equal to the latter, so equally are the supply and the consumption balanced. As a consequence of this, and of the article not being one of speculation, prices fluctuate very little, and the ruling rates have been about $26 for cold-blast Tennessee, Illinois, Ohio, and Kentucky, and $27 for hot-blast iron. Of the 56,000 tons of metal annually produced in Ohio and Kentucky, it is estimated that 22,000 tons are consumed in Cincinnatti, for which $600,000, or thereabouts, are paid annually; from which some idea may be formed of the extent of the foundry business in that city alone.

A meeting of ironmasters from the various counties in Western Pennsylvania has lately been held at Pittsburg, to take into consideration the depressed state of the iron trade. The Hon. C. Myers presided. A report was drawn up and adopted. According to this document, it appears that as early as during the embargo system of 1808, succeeded by the war of 1812, the iron trade of Pennsylvania had increased to a degree unexampled at any former period. This prosperous state of the trade continued till the close of the troubles and war with Great Britain, which, whilst they lasted, afforded ample protection to the iron interest, as well as to agriculture and to labour. But so soon as this protection was removed by the re-opening of trade with this country, consequent upon the peace, the price of iron experienced a considerable decline. Up to 1816, pig iron sold in the Pittsburg market at $60 per ton, and the price of labour was $20 per month. In 1820-21 pig iron had fallen to less than $20 per ton, and labour to $6 per month. The successive tariffs, however, of 1822, 1824, and 1828, tended to restore the prosperity of all these interests, each of which continued to improve, until the effects of the compromise tariff of 1832, which opened American ports to English iron, began to be felt in the market. This compromise system reached its minimum rate in 1842, and such was its effect that pig iron, which had increased in value to $55 and $60 per ton in 1836, fell to $17½ and $18 in 1842, and labour "went a begging." A decided improvement, however, took place in each of these important interests in 1843, and continued to 1847, during which period 75 new furnaces were erected in the counties represented by the delegates, whilst since then, up to the present time, only three new furnaces have been built. Pig iron, which was in current and ready demand in 1845 until 1848 at $32 and $37 per ton, is now in little request, and good iron sells for only $20 per ton. Upon a consideration of the foregoing facts, the committee arrived at the following conclusion, that "when iron and labour are protected by an adequate duty on imports, those interests flourish; and when that protection is withdrawn, they languish and die." Upon which a series of resolutions (as published in the *Mining Journal* of the 22d of September last) were drawn up and unanimously adopted.

Our trans-Atlantic friends would do well to read the history of all protective systems. They would do well to consider their baneful influence on the development of all industry, as compared with the beneficial effects produced by an unfettered and unprotected system, of which the flourishing condition of our own cotton manufacture is a happy illustration. Nor should they overlook the effects produced by the change of commercial policy, which took place in this country six years ago, from which no country has derived advantages so great as the United States. The duty on grain has been reduced to a nominal amount; that on provisions has, in most cases, been taken off altogether; whilst the duty on cotton has been entirely repealed. These modifications of our fiscal system have materially contributed to swell to its present enormous amount our import trade from the United States. Although as yet nothing has been done on their part by way of reciprocity, the President cannot be unmindful of the fact that we, acting upon a great principle, were too generous to stipulate for concessions of any kind; nor do we believe that, to satisfy the clamours of a comparatively small interest, he will attempt to introduce a more exclusive policy, and burden with further restrictions the trade between Great Britain and the United States, whilst every facility is afforded to the free introduction of American products for consumption into this country.

A tariff convention of delegates, from both the northern and southern states, has also been lately held at Newport, R. I., at which the only point settled was conveyed in a resolution in favour of changing, if possible, the basis from *ad valorem* to specific. A slight increase of duty on iron, coal, woollen and cotton goods, was thought advisable, and several committees were appointed to arrange details, and to correspond with different districts of the county on the subject. About fifty delegates were present, most of them men of substance.

AMERICAN TARIFF.—By private letters received on Tuesday from the United States, it appears that the outcry for a larger amount of protection, particularly to the iron trade, had not diminished; and it was, therefore, tolerably certain that the Government would bring the question forward during the next session. Such being the case, it is important to consider with what success the Whigs are likely to move in this very important matter. In the first place, are they likely to have a majority in the Senate? The returns just received decide that point against them. The New Senate is composed of 31 Democrats, 24 Whigs, and three Free-soilers, leaving two to be elected. As far, then, as the Senate is concerned, the question would be in a minority. The new House of Representatives is likely to be also democratic, the numbers being 112 Democrats to 106 Whigs; but, as there is a majority of Whigs amongst the Free-soilers, it is probable the Democrats will only have a majority of one or two in the house; still this is sufficient to prevent any measure being passed that is more protective than the present tariff. Then, there is the very important obstacle of *income* standing in the way of any change in duties; for, as has been mentioned in previous articles on this head, the American Government is spending more than it receives, and as the great portion of the revenue is derived from customs duties, it is doubtful if the Government will venture to make an experiment on changing the tariff, so as to jeopardise the income, at a time when it is so much needed; the probability is rather, that the consideration of the question will be postponed for a time, as there are several subjects of interest to engage the Congress. There is the annexation of California, the Poussin and Mosquito shore difficulties, the change in the British navigation laws—all of which are likely to consume time in long speeches. The question of whether there really exists any necessity for a change is the least to be considered; the ironmasters declare that they cannot compete with England at the present duty, and the Whigs have promised at their elections to support them; they are, therefore, bound to do so; but when it is considered that the present duty and charges on English iron is *seventy per cent.* on the cost by the time it is sold in the United States, it is evident that, if the American ironmasters cannot compete with the manufacturers of this country at these rates, the sooner they close their furnaces the better; and it is scarcely to be believed that a nation of 16,000,000 can be sacrificed to about 20 manufacturers; and with the exception of a few small men, there are not more in the United States. That would be a retrograde step, which we cannot think the American people would submit to; and, therefore, we arrive at the conclusion that the present tariff will not, in all probability, be altered in the next session of Congress.—City Article of the *Morning Chronicle* of Wednesday.

CONTRACTS FOR COALS.—The Board of Ordnance has given notice that they will receive tenders on or before the 1st of November, from parties desirous of tendering for the supply of the undermentioned quantities of coals, to be delivered on shore at the following places:—Bermuda (St. George's) 640 tons; ditto (Treland Island), 500; Cape of Good Hope, 630; Gibraltar, 1835; St. Helena, 294; Antigua, 115; Barbadoes, 100; St. Lucia, 90; and Trinidad, 110.

CONTRACT FOR SALTPETRE.—The Board of Ordnance will also be ready to receive tenders for the supply of 350 tons of saltpetre, on or before the 3d November, for the use of the Ordnance Department, to be delivered in bond by the 7th of March, 1850.

Original Correspondence.

COPPER SHEATHING.—No. XV.

SIR,—A ROASTER MAN will more further our object by following up the ore questions to their fullest extent, than by being in haste to answer those on calcination, which were brought forward for the purpose of drawing more investigators into the field, as he may infer from their commencing paragraph.

His present question is an advance upon his former one ("What are my objections, &c.?"), which objections are distinctly stated in my last. The present one ("What other process I would put it into?") shall now have a rather more direct answer than my present information warrants—subject, of course, to such correction as may be attained by the collision of observations and opinions in this discussion, for which this is just one of the appropriate cases, and to which the answer to my question respecting the concomitants in foreign ores may likely enough contribute.

1. Clean and soft native copper, then, I would continue to put into the 7th process, when *mere toughness* is required; for though it should naturally vary in the quality as well as quantity of its alloy, according to the ores among which it is found, yet the amount of alloy has been so small in all the specimens examined (so far as I know), as to be hardly likely to impair the mechanical texture of a large pool of copper.

2. Unclean native coppers, either to the eye or by the assay, I would put into the third fusion, to give them the benefit of scorification before going into the roaster, and insure thorough mixture with the mass of copper.

3. But for sheathing, where chemical uniformity is requisite, I would not use the metal in which native or any other copper has been introduced after the third fusion; at least, not until careful observation has established the fact, that it becomes thoroughly and perfectly intermixed in the roaster and refinery; for if the incorporation is not perfectly uniform, there will be destructive electro-chemical reaction, when subject to corrosive liquids, even though the copper be very fine.

For instance, two portions of fine copper, one containing ½ per cent. iron, the other ½ per cent. silver, mixed together, but not quite intimately, would in a corrosive liquid (as sea-water) waste faster than if the silvery portion had not been added; and I have had to examine sheathing thus eaten away, not only in points and spots, but in blotches and marblings, as large as the hand. This question, however, still needs the comparison of many observations and opinions. Crucible work is obviously insufficient; nor can it be satisfactorily settled by correspondence between *one* furnace man and *one* crucible man; more diversity is wanting. But it is much more likely to be attained by mutual kindly courtesy between fellow-seekers of truth and improvement than by anything like gibes and taunts, which hardly add to the interest of the letter I have thus endeavoured to answer. GERMANICUS's letter seems to require only acknowledgement without comment in the present stage of the discussion. Can he not help us also in the ore questions? J. PRIDEAUX.

Oct. 23.

IRON AND CARBON.

SIR,—I am much gratified by Mr. Mitchell's details on the diminution of heat in the blast-furnace on conversion of carbonic acid gas to the more voluminous compound of carbonic oxide, as I am not aware this important feature has attracted any due notice from writers on the blast-furnace. It is singular that my attention, simultaneously with Mr. Mitchell, has been occupied with this point for some months, and with the deoxidating influence of carbonic oxide. My results are not complete, but I believe these two agencies explain all the main difficulties of practice. For instance, it is evident how important the addition of 400° or 500° by heated air must prove at the melting region, when the gases have to experience such a deduction of heat by the time they reach the materials for deoxidation at a higher range. The advantage of the modern improvement of wide hearths is also explained, permitting a large molten surface to communicate its heat at once to the region above it, without an intervening mass of matter. No wonder that, under the old system of narrow hearths with cold-blast, when the heat at the tuyères was barely sufficient to produce fusion, a constant critical attention was required to keep the furnace open, and effect deoxidation. The explanation of the effects of a more or less complete and rapid oxidation of the carbonic acid might be carried into great detail, but that is not at present my object. I have, however, been led to conclude, that all the combinations of iron and carbon are due to the agency of carbonic oxide gas, and that this is the *gaseous carbon* required for the solution of the difficulties which I stated at length in your Journal about a year since. I conceive this to be the medium which effects cementation, as well in close vessels as in the blast-furnace. In operating on ores and oxides of iron, the oxygen of their composition obviously furnishes an ample supply for forming the oxide of carbon; and in cementing metallic iron for steel, the air contained in the interstices of the surrounding charcoal is sufficient for the same purpose. If this view is correct, steel would not be produced by cementing iron in vacuo. The carbon requires a gaseous solvent to convey it into the iron, and we know that hydrogen thus acts, as exposure to carburetted hydrogen converts iron to steel. I do not know whether the steel so converted presents blisters, but the blisters of the ordinary process may arise from the liberated oxygen, first converted to carbonic acid, then expanded to carbonic oxide, struggling to escape through pores, impeded by the deposit of carbon—a re-action which should increase, as it is found to do, as the affinity of the iron for carbon diminishes by saturation, and the pores become surcharged. I have been led likewise to some conjectures on the formation of graphite, but these are not yet verified. I wish ironmasters in different districts, who are interested in the *science* of the manufacture, would forward to Mr. Mitchell, for analysis, specimens of their grey and white irons, and of the finer's metal, produced from the same samples.—DAVID MUSHET: *Oct.* 22.

ROTARY ENGINES.

SIR,—It would be interesting if your correspondents, who advocate the rotary application of steam, would favour us with their calculations of the gain derived by uniform over reciprocating motion. For instance, a condensing engine, with steam at 6 lbs., and vacuum gauge at 28 inches, has 20 lbs. per inch on the piston. But, in practice, only about $\frac{5}{8}$ths of this power is realised; of this waste of $\frac{1}{8}$ths, how much do the rotary advocates distribute to friction, and how much to the annihilation of power at ending and recommencing a reciprocating stroke? This is the saving fund by which they must compensate the extra friction, wear, and steam expenditure hitherto characterising rotary engines. Mr. Curr's views are always original and accurate; I should like to see a few figures from him on the point. Meanwhile, will Mr. Baggs permit me to enquire what provision he has (after his data is realised) for preserving the working parts of his air-engine under an oxydising temperature, and what are his proposed lubricants?—DAVID MUSHET: *Oct.* 22.

NOVEL HORIZONTAL STEAM-ENGINE.

SIR,—In visiting the Bedford Foundry, Tavistock, a short time since, I found Messrs. Nicholls, Williams, and Company, engineers, making a small horizontal steam-engine, of a novel character, and which I considered highly useful for proving lodes to a certain depth. The expense of purchasing large engines, and erecting them and houses, must be well known to the adventurers in mines. Having watched the progress of the small engine, on visiting the foundry again I was told it had been set to work at West Sharpton Mine, near the Caradon Mines. Determined to see the result of what I considered so useful an engine for mining generally, I visited Sharpton Mine, and found the engine at work. After inquiries, I found from the pitmen and engineers that she had fully answered all expectations. She is now pumping with an 8-in. lift, and have no doubt, with this size lift, they will sink to a considerable depth. After she has been used to the extent of her power she can be made available, with a slight addition, for a whim-engine. She is a double-acting engine; the cylinder is 14 in. diameter, being fixed in the end of the boiler; 5-ft. stroke in cylinder; the piston rod is connected to the shaft-bob direct. Her nozzles, gear, steam-pipes, &c., are fixed on the boiler, having only two joints to break, when she can be removed, and erected again at a very short notice The boiler weighs 5 tons, and the engine altogether 7 tons. The house is a mere shed, or boiler-house, which answers the double purpose of engine and boiler-house. I am perfectly aware, Mr. Editor, such engines as these will be of great assistance, without much expense, in trying lodes; and the engine itself does great credit to the manufacturers, being so beautifully fitted up, and finished in all its parts. The drawings, I understand, were furnished by Mr. William Mathews, resident engineer of the Devon Great Consols. I trust you will excuse my troubling you with this imperfect notice of the very superior qualities of the engine; but if the manufacturers would forward to your Journal a detailed description, it would prove of general interest to your readers.

Oct. 24. A FRIEND TO MINING.

STEEL DRIVING BAND.

SIR,—Requiring an endless spring steel driving band for a certain purpose, for which no other material will answer, I should be greatly obliged if any of your correspondents could inform me as to the practicability of making, or manufacturing, such a thing, of uniform thickness, streugth, and elasticity.—J. W.: *St. John's Wood, Oct.* 24.

SUPPLY OF WATER TO THE METROPOLIS.

SIR,—There is a fact connected with the Artesian wells of London which is not generally known, and may, therefore, be useful to a large class of your readers. It is this:—For the last 28 years the water has been getting lower and lower, at the speed of 2 ft. per annum; in some cases, recently, it has been observed to be 4 ft. In other words, while the water in all the deep spring wells in London, at the time mentioned, ranged with the level of Trinity high-water mark, the same wells now (notwithstanding the frequent extra sinkings and borings which have been going on to improve the same) cannot yield their supply of water so high by 60 ft.! From this it will be evident that those who have the longest purse will have the longest pull at the supply. ROBERT DAVISON, C.E.

Manchester, Oct. 24.

INDIAN RIVER STEAM NAVIGATION.—No. I.

SIR,—From the numerous obstacles which appear to exist in establishing a system of internal steam communication in India, it really would seem that the present generation of Indians are doomed to shuffle off this mortal stage, ere they see their bright hopes realised; and if the present want of confidence in railway matters continue, it certainly will be ages before a thousand miles of that improved means of communication are completed in India. If the Indians are not yet sufficiently advanced in civilisation for railways, why are the merchants of England not more energetic in establishing a system of steam communication on the vast rivers which traverse these territories, which are incessantly pouring their contents lazily into the sea, instead of bearing on their surfaces fleets of steamers laden with manufactures of the country, conveying them into remote parts of the world, and at the same time rendering thousands of unemployed people comfortable and happy; also proving the means of spreading the blessings of civilisation among the benighted millions of those vast territories? Mr. Editor, if we only refer to the rivers in Europe—the Rhine, Seine, Moselle, Danube, and others—with the vast amount of traffic which has arisen, since the introduction of steam, where comparatively none previously existed, it certainly is a matter of surprise that the rivers in India should have been so long neglected; and it has been said that there are too many sand banks, shoals, and other impediments, to be contended with. But certainly the difficulties in navigating the rivers in India can be no greater than they are on the Danube, where, by the adoption of a regular system of pilotage, with some slight improvements in the river, the introduction of steam navigation has proved so successful, that the number of vessels has increased from 1 to 30, with 105 luggage boats—the average speed of those conveying passengers being 18 miles per hour with the stream, and 10 miles against; and this in opposition to the most strenous exertions of powerful opponents. The year before the commencement of the Hungarian revolution, when the frost suspended the navigation, so great was the traffic, that an enormous mass of merchandise was left at Orshova and Drenkova, which it was impossible for the steam-boats to bring away; so that the merchants of Vienna and Pesth were compelled either to let it remain through the winter, or to convey it overland; and no company in Europe was in a more flourishing condition than the Danube Steam Navigation.

Only let the merchants unite in their efforts, and establish a line of steamboats on the rivers in India; the benefit to be derived would be enormous; and from what I have seen of inland steam navigation on the continent, I am confident that Mr. Bourne, C.E., has in no way over-rated the advantages that must be obtained both by this country and India. The directors of the East India Company should also be liberal in their views towards the company who undertake the project, and grant them a monopoly—a term of not less than 20 years; at the same time, compel the managers to keep pace in improvements with the rest of the world, availing themselves of efficient powerful steam-vessels, and all subsequent practical inventions. If these measures are adopted, a system of steam communication may be opened with millions of people, in spite of the letter signed "Go-Slow," which appeared in the *Times* a short time since—the ideas of the author of which certainly must be very limited.

Fleet-street, Oct. 24. G. SHEPHERD, C.E.

IMPROVED AIR-ENGINE—BAGGS'S PATENT.

SIR,—Your columns are intended, I presume, for the dissemination of truth, and not for the systematic propagation of blunders. I will, therefore, on this occasion, take upon me the task of criticising the critic, who, in the capacity of self-constituted censor, has favoured us, for the last few weeks, with the fertilising outpourings of his pseudo-philosophy. While I am anxious, on the one hand, that the statements brought forward by me, referring to the above topic, should be fairly analysed, and openly subjected to scrutinizing inquiry, I am determined, on the other, that their integrity shall not be sacrificed to sophistication, or coolly disposed of by a perverse obliquity of understanding. If Mr. Curr has any desire to preserve, or to obtain, the reputation of being a candid and impartial critic in matters of this description, he must transcribe facts and opinions truly, as he finds them recorded, and not subject them, in the first instance, to the distorting influence of prejudice and preconceived opinions. To show how completely my meaning has been either mercilessly mutilated or curiously misconceived, I quote the following passage from Mr. Curr's letter in your Journal of last week:—"But on what ground he (the patentee) has assumed that, when the pressure of the heated air on one side of the piston is 15 lbs., the resistance on its other side is nothing—*for he supposes the heated air to act against a perfect vacuum*—is inconceptible, unless it is to be done by magic, there being no visible preparation for producing it." Fair play!—fair play, Mr. Curr! Where is the passage, in all that I have written concerning this engine, which implies any such supposition? Where is the statement that infers the piston to be acting in reality against a vacuum? Let it be produced! If a man tells me that he has a certain engine, the constant power of which *is equal to* 100,000 lbs. raised 20 ft. high in a minute, I do not thereby infer that the engine is actually employed in lifting this weight under these circumstances. It may be used for spinning, or weaving, or a thousand other things. So, if another talks of a piece of machinery which, when put in motion, offers a resistance of *thirty horses*, I do not take the man literally, and suppose that 30 of these animals are pulling and tugging in malicious combination to bring the machinery to a state of rest. A *verbatim* interpretation of such expressions is preposterous. They are merely employed for equating certain forces, otherwise indefinable, with known standards of comparison, in order that an adequate idea of their value may be at once presented to the mind. On what ground, therefore, are my words subjected to such tortuous misconstruction? Here is the sentence:—"The surplus, or available, power at every stroke, exclusive of mere friction, *is equal to that which would be derived from* half the entire force of the large cylinder, *supposing it to be worked by steam*, at a total pressure of 15 lbs. to the inch, cut off at $\frac{1}{8}$ths, and operating against a perfect vacuum." Mr. Curr, as an algebraist, should be aware that every equation, however expressed, implies the existence of two distinct numbers, which, though *equal*, are not, therefore, to be *confounded*.

Having now called the attention of your correspondent to one essential point to be observed in any critical examination of this kind, I will proceed to direct his notice to another equally indispensible. When calculations are necessary for the establishment, or refutation, of any particular topic of argument, they should always be performed *correctly*. At all events, the error should not be so great as to vitiate the eliminated estimate to the extent of 2000 or 3000 per cent.! The calculated results furnished by your correspondent, in disproof of the economy of my air-engine, are certainly more remarkable as arithmetical curiosities than as absolute facts; and whether they have been arrived at in the usual manner, or by the assistance of hyperbolic logarithms, I will not stop to inquire. Your readers, however, shall have an opportunity of judging for themselves of the accuracy of the information which is thus furnished for their benefit, and upon the strength of which a prejudice is sought to be raised against a rational proposition. In the quotation which I am about to offer, if there is the slightest idea in the mind of any one that I am deviating from a rigid verbal transcription, or mangling the true sense of the author by the adduction of a garbled extract, I beg to refer to the letter itself, published in last week's Journal:—"A 1-horse engine also consumes, in the same time (*one minute*), the vapour produced from about 30 cubical inches of water, of a pressure of fully 15 lbs. on a square inch; and the said water is increased in volume, by the expenditure of 2 ozs. of coal, in the ratio of 1 to about 1600. The patentee of the improved air-engine contemplates to magnify the volume of air in the ratio of only 1 to 2; *therefore, the question is, whether one cubic inch of atmospheric air can be increased to two, and of a pressure equal to that of the atmosphere, by the combustion of the 800th part of 2 ozs. of coal, which is something less than 1 troy grain.*" And this is the question, then? This is the standard of comparison upon which the matter hinges. To what an outrageous consequence does it immediately lead! Why, if steam does no more than this, the engine had better be abolished altogether. If 1 troy grain of coal is required for the generation of 2 cubic inches of steam at the pressure of the atmosphere (for I give your correspondent the benefit of the entire 2 in.), what will be the consumption per horse-power per hour?

Let us take the data supplied by the quotation itself. For each horse-power there are 30 cubical inches of water evaporated per minute. These 30 inches are expanded into 1600 times their volume; the whole volume, therefore, is 1600 × 30 = 48,000 cubic inches. As 2 cubic inches are produced from 1 troy grain, the rule of proportion informs us that 48,000 cubic inches require 24,000 grains for their production; and this is the consumption *per minute*. The consumption per hour is 60 times this quantity, or *upwards of* 205 *lbs. avoirdupois per horse-power per hour!* But these errors are as "plenty as blackberries." The very termination of the sentence just quoted informs us that the 800th part of 2 ozs. is *something less than* 1 *troy grain*. Here is Mr. Curr once more in open conflict with the inflexible Cocker, who seems determined to dispute every inch of ground with him. I confess I have always been given to understand that a pound avoirdupois is equal to 7000 troy grains—consequently, that 2 ozs. contain one-eighth of this quantity, or 875 grains; and I trust I shall not be accused of perpetrating a fiction, if I say that this last number, 875, when divided by 800, gives a result of *rather more than one*. But, perhaps, your correspondent means troy ounces; if so, this makes the matter worse; for his old enemy (Mr. Cocker) will have it that two troy ounces contain 960 grains. But, enough! Icarus, in his giddy and ambitious flight, approached too near the sun, melted the wax from his wings, and became amenable to the laws of falling bodies. Let Mr. Curr profit by his example; and instead of attempting to soar into the lofty regions of Arabian symbolism, let him be first quite sure that he has obtained a mastery over the humble arithmetic of Pythagorus. But one more observation, and I have finished. Your correspondent is not even content with subjecting my patent to the murderous fire of his arithmetical artillery; he absolutely proceeds, with refined cruelty, to cast the whole system into ridicule, garnishing his discourse with such repudiative epithets as *fantasy, bagatelle*, &c. This is too bad. I will not, however, return the compliment by affixing these terms to his letter—being fully persuaded that they are utterly inadequate to express the negative value of such abominable trash.—ISHAM BAGGS: *Oct.* 23.

IMPROVED AIR-ENGINE—BAGGS'S PATENT.

SIR,—The confidence and enthusiam of your talented correspondent, Mr. Isham Baggs, of the advantages of his new mode of applying heat in the production of mechanical power, is the general, I may say almost invariable, result of the discovery of any supposed new and important principle, which confidence and enthusiasm, however, is very apt, after mature deliberation and investigation of the subject, to undergo considerable modification, and, in not a few instances, to vanish altogether. Such, indeed, has been my own experience in more than one instance, and such, I am pursuaded, will shortly be the experience of my co-inventor, Mr. Isham Baggs; and as that gentleman professes that "his object is substantial truth—not the empty parade of hypothesis," and states "that, as the invention will be seen ere long in public operation, he will be happy in making its principles generally known, by answering freely the doubts, or questions, of *any* of your correspondents;" and having myself paid considerable attention to this subject, with a view to discover by what means the heat evolved by the combustion of a given amount of fuel may be most advantageously applied to produce mechanical effect, and having, some time since, arrived at conclusions on this matter, which more mature reflection and investigation have only tended to strengthen and confirm; but as, for the want of means, very little publicity has yet been given to those conclusions, it is quite probable that Mr. Baggs knew nothing of the several modes, all of which, under various circumstances, I propose to adopt to economise the consumption of fuel in the obtainment of mechanical power, and all of which are, in my humble estimation, infinitely superior to the plan just patented by that gentleman (Mr. Baggs). I shall not now, however, intrude on your columns by any explanations of my own plans, but endeavour to point out a few rather important errors in Mr. Baggs's theory and calculations relative to the economy to be secured by the adoption of his invention over the present steam-engine.

In generating steam, let us adopt the quantities supplied by Mr. Baggs, and ascertain their comparative values.—1. 8 lbs. of fuel evaporate a cubic foot of water, or generate 432 cubic feet of steam, at a pressure of 60 lbs. to the inch, the mechanical value of 1 ft. of which, if used expansively to its ultimate extent, or say until its volume had doubled four times, and its pressure reduced to a quarter of an atmosphere, and acting against a perfect vacuum, would be 144 × 60 = 8640 + 24,192 (viz.: four times 70 per cent. of the first quantity) = 32,832 lbs., lifted 1 ft. high, which, multiplied by 432, is equal to 14,183,424 lbs., lifted 1 ft. high, by the combustion of 8 lbs. of fuel.—2. The total minimum expansive effect, by the combustion of 8 lbs. of fuel, if *all* the heat was absorbed by atmospheric air, according to Mr. Baggs's first estimate, is 4082·7 cubic ft., at 15 lbs. per inch, effective pressure, the mechanical value of a cubic foot of which, if used expansively to its ultimate extent, would be 144 × 15 + 864 (viz.: two-fifths the first quantity) = 3024 lbs., lifted 1 ft. high, which, multiplied by 4082·7, is equal to 12,346,084 lbs., lifted 1 ft. high, being 1,782,340 lbs., or full one-eighth less than by steam; and when we consider that half the power is spent in pumping in the air, it will be found the advantage is 8 to 3·5 in favour of steam; but this calculation, be it remembered, is made on the assumption, that in the case of the air *all* the heat is made available; whereas it can easily be shown that, by the plan proposed, at least one-half of it will be wasted. *Nor would the arrangement explained in your last Number obviate that waste.* It is likewise a mistake to suppose that a cubic foot of air, or steam, at 30 lbs. per inch, used expansively, against a pressure of 15 lbs., is equal, in mechanical value, to a cubic foot of air, or steam, at 15 lbs., used expansively, against a perfect vacuum, or an approximation to one; for a little consideration will suffice to satisfy any one that the difference is at least 2 to 1 in favour of the latter. I shall not uselessly occupy your valuable space by *demonstrations* on this point, as Mr. Baggs, and your scientific readers, are fully competent to do this for themselves. In conclusion, I think I have shown that, so far from the advantage being "4 to 1 in favour of air," it is actually 4 to 1 in favour of steam, even by the present arrangements, *and which may easily be doubled.*—J. WESTON: *Oct.* 22.

P.S.—The plan, or invention, of pumping back compressed air from the propelling tube of an atmospheric railway, attributed to Mr. Piatti, was explained by myself in your Number for July 22, 1846. Is that date antecedent to Mr. Piatti's patent?

CLARKE AND MOTLEY'S NEW RAILWAY SYSTEM.

SIR,—Having made the experiment suggested by Mr. Motley, I will now briefly state the results, which are as follows:—Two strips of deal, about half an inch square, which, with a given weight and distance between the bearings, were deflected ¼ in., when screwed firmly together, required about two and a-half times the weight to produce the same amount of deflection; but, on removing the weight, it was found that the strips did not resume their former straight position, remaining *permanently deflected* about a quarter of an inch. I turned the pieces, without unscrewing them, the other way upwards, and placed the same weight on them as before, and the deflection, below a straight line, was the same—viz.: ¼ in.—which, on removing the weight, rose to a quarter of an inch, where it remained permanently bent, as before. I then slackened the screws, and separated the pieces about $\frac{1}{10}$th of an inch; and the weight which bent the pieces $\frac{2}{3}$ths of an inch when not screwed together, now bent them half an inch, being only ¼th less than before the screws were put in. The greater strength of the strips, when screwed tightly together, is due to friction; and that is likewise the cause of their not resuming a straight line when the weight was removed, which proves that, even if friction could be depended on, it would be as great, if not a greater, evil than good. The reason why the deflection was a trifle less when the screws were in than when they were not is attributable to their fitting tight in their holes; but the constant elongation and contraction of the rails, by the train passing over them, would soon enlarge the bolt-holes, when they would cease to be even of

the small service of increasing the strength of the beam one-fifth, and would, in my opinion, ultimately prove a positive evil; and as timber is liable to variation in bulk at every change in the weather, the bolts, if they were tight to-day, might be loose to-morrow, so that, if the friction between the beams was not an evil, it could not be depended upon.

After making the above experiments, it occurred to me that the evil stated to arise might be obviated by letting a piece of hard wood in between the beams, near the ends; I did so, and the effect was, that it not only required full one-third more weight to produce the same amount of deflection as when it was resisted by friction only; but, on removing the weight, the strips rose to a straight line, nor would any *reasonable* amount of bending produce a permanent set. But still I am not of opinion that, even with the adoption of this plan, these beams would be, on the whole, so good as solid ones, which, even if suspension-rods were employed, would not cost more than those Mr. Motley proposes, and the bearings would virtually be reduced to 6 feet or 4 feet, if the piles were reduced to 8 × 6, and placed at 8 ft. apart, as I suggested in my former letter, which would not increase the consumption of timber, and only slightly that of labour. There was no necessity for ascertaining what the effect of screwing down the iron plate, or strip, or holding down the ends of the strips of wood projecting beyond the bearing (as Mr. Motley suggested), would be, as the solid beam would have a similar advantage, and to a far greater degree, if, in lieu of 12-ft. bearings, 8-ft. was adopted.

It is a mistake for Mr. Motley to suppose that the "dove-tails in the cross-ties will not weaken the beam," let them be put in how they may. This I proved some years since, and did not, as in the other case, require to institute any fresh experiments in order "to be well informed on the subject." I have, in conclusion, Sir, only to add, that the object of my former, or present, remarks on this subject were not written with a view to obstruct Messrs. Clarke and Motley—rather the reverse; and I am sorry they should have been so taken, as they appear to have been.

Oct. 22. J. Weston.

GORDON'S INVENTION FOR THE VENTILATION OF MINES.

Sir,—Having carefully read the specification of Mr. Gordon's new patent for the ventilation of mines, I am at a loss to discover in what the originality of his claim consists. If the only point of novelty be the supplying of the fire in the furnace with air drawn exclusively from the upcast shaft, I beg to state that I have long practised this plan, and in confirmation of this, would refer to the following extract from a communication of mine on the subject, which appeared in your Journal of the 17th July, 1847. I there remarked, "that to render the furnace at surface really useful, *the air that feeds the fire must be obtained from the adjoining upcast shaft, by an opening for that purpose beneath the bars*, and on no account from the external air, which ought to be carefully shut out by close-fitting doors above and beneath the bars, to be opened only for the short periods required for replenishing the fire, or taking away the refuse cinders." These remarks, be it observed, were not mere theoretical suggestions, but were grounded on practical knowledge, obtained from the working of a similar furnace, which I had previously erected for the ventilation of an extensive and fiery mine, and which has continued in satisfactory operation to the present time. I am not, however, equally sanguine with Mr. Gordon as to the merits of this plan of ventilation, which I consider to be adapted only for peculiar circumstances, and will never, to any considerable extent, supersede the generally preferable mode of furnace ventilation from the bottom of the upcast shaft. I observe that Mr. Colwell, with a praiseworthy perseverance, worthy of a better cause, still continues to urge his notable scheme on the attention of the mining public, and lavishes abundant abuse upon every opponent, which, in my case, I would submit savours somewhat of ingratitude, as but for the notice I primarily took of this puerility, there is good reason to believe it would long since have been consigned to that just oblivion from which no efforts of Mr. Colwell, or his supporters, can ultimately rescue it. The Black Diamond.

Kilburn, Oct. 23.

VENTILATION OF MINES—COLWELL'S SYSTEM.

Sir,—I have carefully examined the system (as described in this Journal) of Mr. Colwell for ventilating the workings of mines by "artificial swilleys," &c., and have endeavoured to apply it to practice; but, with very great deference to Mr. Colwell's practical abilities and scientific attainments, I must acknowledge that I find it *totally inapplicable* to either the "pillar and stall," or "long wall" system of working in South Staffordshire. I can truly appreciate Mr. Colwell's humane motives, and could wish his power equal to his will. Silas Bowkley.

Ettingshall, near Bilston, October 22.

VENTILATION OF MINES—Mr. COLWELL'S SYSTEM.

Sir,—Although confident as ever as to the ultimate result of my scheme, which I have not yet fully detailed, with its various modifications, the pressure of my public duties this week precludes the possibility of replying to your worthy correspondent, "J. R.," who has proved himself to be less sceptical than others, and a true friend to the cause of humanity. I regret that I had no means of communication with that gentleman privately for additional information; still I hope to remove the difficulties alluded to, and to prove to the mining community the consistency of the principle and basis of my arguments. I will, next week, show a simple and inexpensive mode of putting it to the test. Charles Colwell.

Borough-road, Oct. 24.

The Steam-Engine.—Mr. J. C. Pearce, of Salford, has invented an improvement in the expansive steam-engine, the advantages contemplated by which are stated to consist in the application of two self-acting valves, in addition to the expansion regulator, one to each end of the steam cylinder—fixed in suitable passages, which communicate with the waste steam or exhaust pipe. Mr. Pearce states that the use of these valves is to prevent the pressure upon the working side of the piston from falling below the resistance or back pressure upon the opposite side—a very common occurrence in carrying out the expansive principle, although attended with very considerable loss of power; and that the proposed improvement is chiefly adapted to locomotives and other non-condensing expansive engines, where the power is extremely variable.

Self-Acting Water-Meter.—Mr. A. Carrick, of Glasgow, has constructed an improved meter, which he describes as a close vessel, into which the water is introduced through a valve, and when it reaches up to the hand of a fixed syphon, it is discharged into a receiver below; that the valve is closed while the discharge continues by means of a beam on a fulcrum inside the meter; to the ends of this beam a chain connection is made, so that the valve is drawn up by the superior weight of water flowing through the syphon into a perforated bucket. The number of discharges is indicated by wheel work, similar to a gas-meter, the movement being obtained from the arbor that carries the beam. The end of this arbor comes out through the meter, and works a ratchet wheel with a pinion of ten leaves on its axis.

New Valve-Cock.—Mr. D. Erskine, of Edinburgh, has invented a valve nose-cock, suitable for brewers' coppers, kitchen-boilers, hot-water apparatus, &c., which he considers superior to the common cocks, either for steam or hot water. It is fitted with a valve that neatly fits the case; the spindle is fitted with a spiral spring, which makes it self-shutting, and the spindle passes through a stuffing box. The advantage is stated to be that it will last much longer than the present cocks; and that when made on a large scale, for brewers' coppers and other purposes, it will not cost one-half so much as those at present in use. Each large cock to have one spare valve and valve socket, in order that the old valve may be removed to be ground tight when necessary, the new valve supplying its place in the meantime, so that there may be no stoppage in the use of the coppers, &c.

Sheet Lead.—Mr. John Robertson, of Brooklyn, New York, has patented an improvement in manufacturing sheet lead, of which the following is the *claim*:—"What I claim as my invention, is the mode of manufacturing such hollow cylindrical forms of lead, and other soft metals and compounds, into sheets, by first placing them round a roller whose axis may be in a horizontal plane, or in one of any inclination, and then rolling it by any known mechanical means, until it shall be rolled to a proper thickness, substantially as set forth, whereby handling the sheet during the process is avoided, and a continuous rotary motion in one direction may be given to the rolls. I claim the construction of the carrying roller, constructed substantially as set forth, and the manufacture therewith of hollow cylindrical formed pieces of lead, or other soft metal or compound, into sheets by rolling, combined with the movable bearings and pressing roller or rollers, substantially as set forth. I claim the manufacture of lead, or other soft metal or compound, into sheets, by supporting a hollow form thereof, and rolling it by one or more pressing rollers, forced against the outside of the form as it becomes thinner, and drawing out the extended form when required, in the mode set forth."

HORSLEY'S IMPROVEMENTS IN PREVENTING INCRUSTATIONS AND PURIFYING WATER.

[Specification of patent granted to John Horsley, practical chemist, of Ryde, Isle of Wight, for certain improvements in preventing incrustation in steam and other boilers; also for purifying, filtering, and otherwise rendering water fit for drinkable purposes.]

This important invention, which proceeds upon the true principle of removing, by *chemical* means, the impurities *chemically suspended* in the water, is thus set forth by the patentee:—

For removing incrustations, I first purify the water to be used in boilers in the same manner as that described with regard to water intended to be used for drinkable and other purposes; and where sea water is employed for generating steam, I purify such sea water in a similar way, by employing the oxalate of potassa, hereafter mentioned, and ammonio phosphate of soda; and the proportions I employ for the water of the British channel are about two drams of oxalate of potassa to about two ounces of the ammonio phosphate of soda for every gallon; but these proportions may be varied as circumstances may require, having regard to the principles hereinafter set forth. The precipitate resulting from the employment of the substances above stated, forms an admirable fertilizer for wheat and other grain, and, therefore, need not be changed or altered by decomposition for the sake of recovery, as in the cases hereinafter set forth.

With regard to purifying, filtering, and otherwise rendering water fit for drinkable purposes, I would remark, that all water, except distilled water, is more or less charged with various adventitions—earthy, saline, and gaseous matter, acquired by transit through the soil—which imparts thereto that peculiar hardness, recognisable on the use of soap, in some cases from its being curdled, as well as its becoming chalky, and depositing or crusting, not only when boiled, but also from various unassignable causes when not boiled, all which qualities render the use of such water, for various purposes in household economy, and the arts and manufactures, highly objectionable. It is well known that there are certain chemical materials, tests, and re-agents, which sensibly indicate the presence or absence of the aforesaid adventitious matter, forming therewith insoluble precipitates, and this may be extended and applied to the purification and separation of such earthy and saline adventitious matter from the water in which the same is contained, such purification and separation to be conducted upon the principle of either single or double elective chemical affinity, commonly known to chemists, or, in other words, by a system of displacement, based on the nature and theory of chemical equivalents, or the knowledge of the parts and proportions in which these several substances unite, and become held in solution.

In order to accomplish the separation of the calcareous matter, which is more generally found in water than any other matter, I employ, for that purpose, such substances as are capable of decomposing the same—namely, calcined or caustic barytes, or a solution of the same in water, known as baryta water; the baryta uniting with the excess of carbonic and sulphuric acids of the salts of lime, decompose and precipitate the same along with the lime, in the form of carbonate of lime, carbonate of barytes, and sulphate of barytes. When phosphate of soda, which is composed of soda as a base, united to phospheric acid, is added to water containing lime, the phosphoric acid unites with the lime to form the insoluble precipitate of phosphate of lime. When silicate of potassa, which is composed of potassa as a base, united to silicic acid, or acid of flints, the silicic acid uniting with lime to form an insoluble silicate of lime, oxalic acid, or acid of sugar, and its soluble alkaline, salts, oxalate of soda, oxalate of ammonia, oxalate of potassa, sesqui-oxalate, or binoxalate of potassa, either of which substances unite with lime to form a precipitate of oxalate of lime, caustic strontin, or strontia water; but I give the preference, however, to the oxalate of potassa, when it is designed to extract the whole of the lime.

The object of this invention being to purify and soften "hard" water, which is of a very variable character, it becomes necessary, before treating any water according to this invention, to correctly ascertain the character or "hardness" of such water; and this I effect by first treating a given quantity thereof with an excess of oxalate of ammonia, or oxalate of potassa (that is to say, if the quantity of water be one gallon, then I use two drachms of the oxalate, which is an excess), precipitating the adventitious matter or lime to the fullest extent. For every gallon of this precipitate, when obtained and dried, an equal portion of crystalised oxalic acid is to be used, in order to purify the water; for example, say that a gallon of any water yields in this way fifty-six grains of precipitate, then fifty-six grains of the acid should be used along with an equivalent of potassa; there will then remain in the water, after precipitation, instead of and in the place of the lime so displaced, a carbonate, sulphate, or muriate of potassa, as the case may be, and the water is purified and fit for use.

I would here remark that in all cases the adjustment of the relative proportions of the materials to be employed for the purpose of purifying water, must depend upon the character of the water to be treated; and it is essentially necessary to guard against any indiscriminate use or excess of the said materials, in order to avoid communicating any noxious qualities to the water; and with this view, although I have ascertained the character of the water by the above means, I prefer to make further confirmatory examinations into the exact composition of the water, which is always variable in quality, and use no more of the materials than are absolutely necessary to effect the object desired, whether it be for the purification of water for drinking, washing, and other household purposes, or whether it be for the prevention of deposits, or incrustations in steam and other boilers.

In order to ascertain exactly the presence or absence of any residual oxalic acid (when used), more than is necessary to effect the decomposition of the various earthy salts, I have recourse to certain infallible tests. To the purified water I add a small portion of lime water, if turbidity ensues; then to prove whether it be a carbonate or an oxalate of lime, I use acetic acid, which dissolves the carbonate of lime, but is without action on the oxalate of lime. For barytes and compounds I use, as a test, a few drops of dilute sulphuric acid, or a little sulphate of soda, or even carbonate of potassa or soda, will throw down the baryta. No test is required when the other substances are used, the residual being harmless. By the method or methods, and means aforesaid, I decompose and precipitate, either partially or wholly, as the case may be, the various earthy and saline matters generally contained in the water.

With regard to filtering, and otherwise rendering water fit for drinkable purposes, any of the ordinary filters may be used; but in general, I find that the water, after having been treated in the manner aforesaid, is so purified that this is almost unnecessary; but the separation of the transparent and supernatant water can be accelerated after subsidance of the precipitate (by decantation or drawing off, by means of a syphon, combined with an exhausting syringe; this method is the more available, inasmuch as the recovery of the precipitated matter is an object of consideration).

As the recovery for further use of the chemical materials used in the process of purification is of considerable importance, as regards the economy of the same, after the water is purified, &c., I thus proceed for the recovery thereof:—

The precipitate of oxalate of lime I afterwards treat cautiously and discriminately with an excess of aqueous sulphuric acid, which decomposes the oxalate of lime; and, on dilution with water, the oxalic acid is taken up in solution, which, being filtered and evaporated, yields crystals of pure oxalic acid, or it may be done by means of double elective chemical affinity, by boiling the precipitate along with a solution of carbonate of potassa, filtering and crystalising, the produce being oxalate of potassa, insoluble carbonate of lime being left on the filter.

Having thus particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed; I declare that what I claim as my invention, the exclusive property whereof was granted to me by the aforesaid letters patent, is as follows:—

Firstly—The treating sea water, with a view to prevent incrustations or deposits in marine boilers, by the means before mentioned.

Secondly—The treating ordinary water, whether with a view to prevent incrustation of steam and other boilers, or for purifying and rendering it drinkable, so as to soften and deprive it of adventitious matter.

Patent-office and Designs-Registry, 210, Strand, Oct. 25.

Sheet Metals.—Mr. T. D. Jackson, of Brooklyn, New York, has patented an improvement in alloys for sheet metals, consisting of—Copper, 64 oz., zinc, 22 to 26 oz., India tin, 1 to 4 oz.—The inventor claims as his invention or discovery, "the application of the manipulations employed for compounding an alloy of metals in the proportions and of the materials mentioned for a new sheet metal, which shall be capable of being wrought in the cutting press, with dies, &c."

MINING IN THE OLDEN TIMES—No. IV.

On the same day she granted letters patent to another company, to be incorporated for ever under the title of the Society of Mines Royal, these obtained the grant made to Thomas Thurland and Daniel Houghsetter, in the sixth year of her reign—the first parties to whom she granted these immunities and privileges. Conjointly with them were William, Earl of Pembroke; Robert, Earl of Leicester; James, Lord Montjoy; Sir William Cecil, Knt.; John Tamworth, and John Dudley, Esqs.; Lionel Ducket, citizen and alderman of London; Benedict Spinola, of London, merchant; John Loner, William Winter, Anthony Ducket, Roger Wetherall, Richard Springham, Jeffrey Ducket, Richard Barnes, William Platten, Thomas Smith, William Birde, gentlemen; Daniel Ulster, a German; Matthew Field, George Needham, and Edmund Thurland; and enables them, by the name of the governors, assistants, and commonalty of the Mines Royal, to purchase lands, and tenements; and to alienate, set, or let the same, and to sue, implead, and be sued in any court before any judge, spiritual or temporal, concerning any of their affairs. By this Lionel Ducket and Daniel, Houghsetter are appointed the first governors, Anthony Ducket and Daniel Ulster the first deputy-governors, John Tamworth, Thomas Thurland, Benedict Spinola, John Loner, William Winter, and Roger Wetherall, the first assistants, until the first Monday in May, 1569, and thence, if need be, till others are chosen; with power to keep courts, elect officers, make bye-laws, acts, and ordinances when and where they please within the limits of their grant, and to admit more members, English or strangers, and to revoke rules, ordinances, &c—every member to have a quarter of a 24th part, or a gentleman of 40 mks. per annum. in certain counties, a quarter part at least to rule and govern officers, ministers, workmen, and labourers, according to the ordinances, &c.; and to remove members and impose fines, to purchase lands, to elect one or two officers, who are called sergeants, to collect the fines, and arrest body and goods. Their precepts to be obeyed in cities, boroughs, and towns, and all officers indemnified for their obedience thereto. A member having a quarter part, his voice is as good as two members of half-quarter parts, and so of the rest greater parts proportionably. All mayors and sheriffs are commanded to assist them.

In this reign the mines of Combartin, in Devonshire, which had lain dormant from the time of Edward III., were again worked. The sett was granted from the Crown to Adrian Gilbert, armiger, ancestor of Sir Walter Raleigh Gilbert, the East Indian general. He shortly disposed of his interest to Sir Bevis Bulmer, Knt., who raised a great quantity of silver, out of which he caused two cups to be made; one was presented to William Bourchier, Earl of Bath, with this inscription engraved on it:—

In Martins-combe long lay I hid,
Obscure depress'd with grossest soyl,
Debased much with mixed lead;
Till Bulmer came, whose skill and toyl,
Refined me so pure and clean,
As richer nowhere else is seen.
And adding yet a further grace.
By fashion he did enable
Me worthy to take a place,
To serve at any prince's table,
Combe Martin gave the ore alone,
Bulmer fining and fashion.

Anno nostræ redemptionis, 1593—Reginæ virginis, 35.
Viro nobilissimo Wilhelmo Comiti Bathoni,
Locum tenenti Devoniæ et Exon.

The other, with a cover, was presented to Sir Richard Martin, Knt., Lord Mayor of the City of London, to continue to the said city for ever. It weighed 137 ozs. fine, on which were these verses:—

When water-works in Broken Wharff,
At first erected were,
And Beavis Bulmer by his art,
The waters 'gan to rear.
Dispersed I in earth did lye,
Since all beginning old,
In place called Combe, where Martin long,
Had hid me in his mold

I did no service on the earth;
Nor no man sate me free,
Till Bulmer by his skill and charge,
Did frame me this to be.

Anno redemptionis nostræ, 1599—Reginæ virginis, 35.
Richardo Martino Militi, iterum Majori,
Sive vice secunda, civitatis Londini.

In the reign of James I., her successor, the county of Cornwall was surveyed by John Norden, who published a work, entitled *Speculi Britanniæ Pars*; in this work he says, that that "no commodity of this kingdom, corn and wool excepted, is so vendible in foreign parts as tin." He describes it "as a metal growing for the most part among the hard and infragable rocks in the *moores* and *mountayns*, the ore being an obdurate stone, whereof the work is of two sorts, stream and lode works. The stream works are in the brooks in the valleys among the hills. The lode works in the mountains. The stream works are shallow and easy, the lode works deep, painful, and dangerous." He broaches the theory, that the Jews first worked the tin mines previous to the Roman era: and cites that pickaxes of box and hartshorn are found by the modern tinmen in the old workings, which retain to this day the name of Attal Sarazin. "These works, both the stream and lode works, are found by little stones, which lie both in and near the brooks and upon the mountains, where the metal lies; these are called the shoade, being parcel of the vein of ore, which being dismembered from the lode, are means to direct to the place of profit, as the smoke directeth where the fire lurketh. They call that the lode which is the vein of the metal, which seldom exceedeth 1½ ft. in breadth, but sometimes more lodes than one run together, then the work is far richer. The poor hirelings work for 8d. per diem, or 5l. to 6l. per annum, and in all this to find themselves in necessaries. Every great work hath an overseer, and him they call captain, who appointeth every man his work, and provideth frames of timber to support the concavities where need requires, and pumps to exhaust the water out of the work, and other engines for the purpose. In the lode they work all by light of candle, and, therefore, it is hard to follow the lode, which goeth sometimes sloping, sometimes direct, and oftentimes they lose it, and are much troubled to find it again. In their deep lode work, they sometimes meet with great streams of water, which pass through the rocks and bowels of the mountains; and sometimes with rocks so stubborn and obdurate, as a sufficient labourer, having a pickaxe and wedges of iron steel-pointed, and other best helps, can hardly cut above 1 foot in a week; great cunning, much cost, and long time is required in this, ere it be effected to profit. The ore being with great labour and charge gotten, requireth much after-cost and trouble; first it is broken with mighty hammers of iron, afterwards stamped to a lesser size with stamps headed with iron, and raised with a wheel, which is driven with the force of water; then it is made far smaller with a mill, called a crazing mill, which grindeth it to a small powder; then it is washed with a mild current of water that falls upon green turfs, carrying away the sand, and leaving the metal. Thus the ore being made fit for the furnace, is cast thereinto by degrees, not much at once, and so melted, and as it melteth, runneth out in a trough of stone or earth square at the furnace mouth, which will contain so much as will make a piece of tin of 300 lbs. or 400 lbs. weight. Thence these are carried to the places of coinage, privileged for that purpose, and they are Helston, Truro, Lostwithiel, and Liskerde." At this period every thousand of tin yielded in dues to the duke 40s., and no one was allowed to alienate or dispose of his tin, until it was coined, and the fees paid. In the year 1600, the tinners being assembled at a court at Lostwithiel, her Majesty's pleasure was delivered to them by the Lord Warden, that 6d. upon every thousand, over and above the befores aid 40s. and 16s. should be paid of all tin to be transported beyond the sea. In the same year, Queen Elizabeth disbursed 4000l. to them, as a loan, to be repaid within the year. It appears, that at this period, the merchants of London were in general the purchasers of the Cornish tin, and were accustomed to make large advances; the price of tin at that period was from 20l. to 80l. the thousand. The tin mines were situated in enclosed grounds, which they called "seuerall," or in the common lands, which they called "wastler." In the first none might dig but the owner of the land, without his license; in the other, any one, on paying a royalty to the lord of the soil. He states, that the Stannary Court was first erected by Edmond, Earl of Cornwall, brother of Henry III., and for the privileges granted by that charter, the tinners agreed to pay a halfpenny for every pound of tin, which should be wrought. The original charter had been some time lost. The tinners of the shire were divided into four quarters—viz., Foymoare, Blackmoare, Trewarnayle, and Penwith; to each of these was a steward; six men formed a jury in small causes, and 24 in great pleas. According to the charter of Edward I., they had liberty to sell the tin to the best advantage, but with a restraining clause—*Nisi nos ipsi emere voluerimus*. The tin works at this period in the county, were—Carmeall Ball, the property of Mr. Hanibal Vivian, Mr. Thomas Tregose, Mr. Thomas Chyaton, and Mr. Nicholas Fortescue; Ball-luholl, the Earl of Bath; Bosseigan, Mr. Halls; Carbisse, Bassilsacke, Mr. Cornish; Hallywoone and Bennyon, in Lalant, Sir Reynold Mohun; Roswall, Mr. Russel; Ballidue, or the black rock in the hundred of Penwith; Rosseline, Gorlemoe, Portkellis, and Godolphin, where 300 men were employed, Tolkerne, St. Annes, and Poldice, near Truro, in Kirier hundred. No mention is made of any other tin works, besides the above enumerated.

At this period, copper does not appear to have been worked to any extent. Immediately on Norden's work issuing from the press, he presented the following memorial to King James I.:—"Right Gracious Sovereign, having generally touched your Majesty's minerals in this my simple discourse of Cornwall, it may please the same to accept of a more particular intimation of this kind of royalty, a matter of highest respect of profit, not only in tin, whence ariseth great benefit unto your Majesty, but also in copper, a metal whose quality and quantity would so far exceed the former, as were the works assumed into your Majesty's own hands, duly searched, truly managed, and effectually followed, would raise a greater yearly profit than the value of your Majesty's land revenue, so rich are the works, especially some lately found, as by the opinion of the skilful in that mystery, the like have not been elsewhere found. Though the worth hath been formerly extenuated by private priers into the secret, and covertly followed for their own gain, your Majesty may be, therefore, pleased to cause a further view, and more due search by the skilful in this mystery, who, no doubt, may find out matter of admirable annual revenue. The riches concealed in those Cornish rocks argueth God's high blessing, whereof if use be not made, it may argue neglect of the fruits of Providence. Your Majesty, it may be, hath had hereof former intimation, yet could I not but in duty most humbly recommend the more serious consideration of so weighty a consequence, unto your most absolute wisdom.—Your Majestie's most humble subject."

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY 43

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and 37, High-street, Southampton.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 23, *HAWLEY-ROAD, KENTISH TOWN, LONDON*, 44

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

BICKFORD'S PATENT SAFETY FUSE.—The Patentees of the ORIGINAL, and only real, SAFETY FUSE, beg to inform Merchants, Mine Agents, Railway Contractors, and all persons concerned in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE *has now a thread wrought into its centre*, which being patent right, infallibly *distinguishes it from all imitations*, and ensures the continuity of the gunpowder. The Safety Fuse is now protected by a Second Patent, and manufactured by greatly improved machinery. BICKFORD, SMITH, & DAVEY, Camborne, Cornwall. 45

STRUVE'S PATENT MINE VENTILATOR.
COST—£150.
TO COLLIERY PROPRIETORS.

Quantity of air passed through a Mine almost unlimited, to the extent of 200,000 cubic feet per minute, if necessary—depending on size of apparatus.

COST of an APPARATUS to produce a ventilation of 20,000 cubic feet per minute, ONE HUNDRED and FIFTY POUNDS, exclusive of patent right. This amount of ventilation would be sufficient for a mine working 150 tons per day, provided it was not very fiery; in which case it would be desirable to provide for 30,000 cubic feet of air per minute. The capabilities of the Ventilator may be doubled at any future time, at a comparatively small cost.

The Ventilator has been at work for upwards of six months at the Eaglesbush Colliery, near Neath, working under a rarefaction of 2½ to 3 inches of water, which demonstrates the impracticability of furnace ventilation, when the shafts are shallow and the airways small.—It is practical to rarify a mine by this ventilator to the extent of 2 feet of water, or 2 inches of mercury. 46

LICENSES will be GRANTED on application to
Mr. WILLIAM PRICE STRUVE, Swansea,
CIVIL ENGINEER AND MINERAL SURVEYOR.

INDURATED AND IMPERVIOUS STONE, CHALK, &c.—AGENTS, with capital, are WANTED in all TOWNS to SUPPLY (under British and Foreign Patents) the great demand for HUTCHISONISED MATERIALS—hard as granite, impervious to moisture, vermin, &c.; the cheapest and most durable for all buildings, hydraulic, paving, monumental and decorative work.—The profits are large.
Apply to HUTCHISON & CO., 47
140, Strand, London; or Tunbridge Wells, Kent, and Caen, Normandy, stating name, address, and capital at command.

N.B.—Houses cured of damp. The produce of soft stone quarries, chalk, plaster of Paris, wood, pasteboard, and all absorbent materials indurated to resist frost, vermin, &c.
LICENCES GRANTED.

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS. 48
WORKS—Smethwick, near Birmingham.
LONDON WAREHOUSE—No. 6, Upper Thames-street.

TO THE OWNERS OF COLLIERIES, MINES, PLANTATIONS, SAW-MILLS, &c.
IMPROVED CIRCULAR SAWS, MILL-SAWS, FILES, 49
Machine Irons, and Cutting Knives, Steel in Blister, Bar, Cast, Shear, and Drift Steel, Springs for Railways and Common Roads, Iron Washers, Bolts, Hammers, &c., on the most PERFECT and ECONOMICAL PRINCIPLES, MANUFACTURED with DISPATCH, by
BLAKE AND PARKIN,
THE MEADOW STEEL-WORKS, SHEFFIELD.

LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sums not less than £500.—Applications to be made or addressed to this office. 50
By order,
135, George-street, Edinburgh, May 30, 1849. D. RANKINE, Treasurer.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.
E. J. DENT, 82, Strand; 33, Cockspur-street; 34, Royal Exchange (clock tower area), Watch and Clock Maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.
DENT'S PATENT DIPLIEDOSCOPE, 51
or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

New Patents.

SPECIFICATION ENROLLED DURING THE PAST WEEK.

LOUIS VERNET, Buenos Ayres: A method of preserving from destruction by worms, insects, decay, and fire, certain vegetable and animal substances. This invention consists chiefly in impregnating saturating, or coating the substance to be preserved with a weak solution of arsenic, alone or combined with other materials. The solution is obtained by boiling an arsenious acid in water until it is dissolved, and the fluid becomes clear and transparent. The proportion of arsenic to water is 1 lb. to 40 gallons, and care should be taken not to allow the fire to touch the sides of the boiler above the water, which would cause the arsenic to sublimate, and act injuriously on the heath of the workmen. The quantity of water evaporated should be replaced by the same quantity of fresh water, in order that the relative proportions above-mentioned may be maintained. Or, a concentrated solution may be formed by dissolving 1 lb. of arsenic in 5 gallons of water, which can be preserved for any length of time in wooden vessels until required for use, when every 5 gallons must be diluted with 35 gallons of water. The article may either be immersed in or washed over with the solution, and then dried, whereby it will acquire a thin coating of arsenic, which will be imperceptible to the senses, but a sufficient preservative against the ravages of insects, &c. Or, it may be impregnated with the solution by exhaustion or pressure. When the solution is required to dry quickly, 6 lbs. of alum to 1 lb. of arsenic are dissolved in it. To preserve timber from fire, it is to be impregnated with a solution of 1 lb. of arsenic, 6 lbs. of alum, and 10 lbs. of potass, in 40 gallons of water. To preserve timber immersed in water from decay, and the ravages of the worm, it is to be painted over with the solution mixed with oil or any suitable tarry matters.

Claims.—1. The use of weak, simple arsenical solutions to preserve animal and vegetable substances from insects and decay.—2. The use of weak arsenical solutions, in conjunction with other matters, or with oil or tar, to preserve animal and vegetable substances from fire and worms.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

W. B. Adams, Fairfield Works, Bow, part of a railway waggon.
How and Dudgeon, Stepney, domestic filter.
W. and R. Suggitt, Manchester, power driving motion for a warping mill.
J. Harrison, Blackburn, heddle apparatus for looms.
J. Kidgway, Cauldon-place, Staffordshire, water-closet basin.
A. Grant and Brothers, Clement's-court, Wood-street, Cheapside, stretcher and rib joint for umbrellas and parasols.
J. Rogers, Yately, Hants, ventilating brick.
R. A. Ford, Strand, fastening of a shirt collar.
G. Erby, Oxford-street, the Oxford shirt and collar band.
J. Harrop, Sheffield, builder, inodorous commode pan.—*Mechanics' Magazine.*

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Chester Main 17 9—Wylam 17—Wall's-End South Killingworth 15 6—Wharncliffe 18 6—Lambton Primrose 19 3—Belmont 19 6—Haswell 19 9—Russell's Hetton 19 9—Whitwell, unscreened, 15—Denison 19—Kelloe 19—Adelaide Tees 19 6—Tees 19 9—West Cornforth 18 6—Derwentwater Hartley 16—Nixon's Merthyr and Cardiff 21 6—Ships at market, 32; sold, 31.

WEDNESDAY.—Bute's West Hartley 16—Buddle's West Hartley 16 6—Carr's Hartley 16 6—Holywell 16 6—New Tanfield 14—Tanfield Moor 15 6—Townley 16—West Hartley 16 6—West Wylam 15 9—Wall's-End Clarke 16—Gibson 17—Gosforth 17 6—Hedley 17 6—Hilda 17—Hotspur 16 9—Heaton 17 6—Hebburn 17—Northumberland 16 9—Original Gibson 17 6—Percy 17—Urpeth 14—Walker 17—Bell 17 9—Belmont 18—Braddyll 18 6—Hetton 19—Haswell 19—Hutton 17 6—Jonassohns 17 3—Lumley 17 9—Lambton 18 6—North Hetton Lyons 18—Pemberton 17 3—Plummer 18 6—Russell's Hetton 18 6—Stewart's 19—Whitwell 17 6—Caradoc 18—Denison 17 3—Heugh Hall 17 9—South Kelloe 17 6—West Belmont 18—Whitworth 15 9—Seymour Tees 17 6—South Durham 17 6—St. Helen's Tees 16 6—Tees 19—West Cornforth 17 6—Cassop 18—Eden Main 17 9—Lambton Primrose 18—Anthracite (through and through) 16—Cowpen Hartley 16 6—Derwentwater Hartley 16 6—Llanglennich 20 6—Nixon's Merthyr and Cardiff 21 6—Risca Rock Vein 20—Sidney's Hartley 16 6.—Ships at market, 142; sold, 114.

FRIDAY.—Bate's West Hartley 15 9—Buddle's West Hartley 16—Carr's Hartley 16—Adair's Main 14 9—Hasting's Hartley 16—Holywell Main 16 6—North Percy Hartley 15 9—Tanfield Moor 15 6—Tanfield Moor Bute's 14—Townley 16—West Wylam 16—Wylam 16—Wall's-End Clarke 16—Clennell 16—Gibson 17—Gosforth 17 6—Morrison 17 6—Percy 17—Urpeth 14—Eden Main 17 9—Lambton Primrose 18—Braddyll 18 6—Hetton 19—Haswell 19—Hutton 17 6—Jonassohn's 17 3—Lambton 18 6—Plummer 18 6—Russell's Hetton 18 6—Stewart's 19—Cassop 18 3—Denison 17 3—Kelloe 18 6—Cowpen Tees 17 6—South Durham 17 6—Tees 19—Anthracite 20—Cowpen Hartley 16 3—Derwentwater Hartley 16 3—West Hartley Netherton 16 3—Risca Rock Vein 20—Sidney's Hartley 16 3.—Ships at market, 194; sold, 75.

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Amount with Additions.		Sum of Premiums paid according to Ages at entry.							
At end of Years.	At 2 per cent. per ann.	20.		27.		34.		41.	
6	£1120 0 0	£145	5 0	£167	8 4	£196	5 10	£235	19 2
13	1276 16 0	290	10 0	334	16 8	392	11 8	471	18 4
27	1659 6 7	581	0 0	669	13 4	785	3 4	943	16 8
55	2302 10 10	1162	0 0	—	—	—	—	—	—

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